

5.6 Biological Resources

Information contained in this section is summarized from the *Biological Resources Report for the Dos Colinas Project, Carlsbad, California* (Merkel & Associates, Inc., July 29, 2010). This biological technical report is provided as Appendix E on the attached CD of Technical Appendices found on the back cover of this EIR.

As discussed in Section 3.0, Project Description of this EIR, the proposed project consists of a continuing care retirement community (CCRC) and an affordable housing development. In addition to these project components, an RV storage and garden area are proposed adjacent to the CCRC site. The RV storage and garden area have been designed to replace a similar existing facility located off-site, northeast of College Boulevard, on property owned by the Rancho Carlsbad Owners Association (RCOA). The existing off-site RV storage facilities are required to be removed and relocated (i.e., recreational vehicle storage and garden plots), as a mitigation measure for the future extension of College Boulevard Reach "A" (as addressed in the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4 & Detention Basins EIR (EIR 98-02, SCH No. 99111082), and the Zone 15 Local Facilities Management Plan. In order to facilitate this necessary relocation, it may be necessary to record a map to allow the transfer of ownership of the new proposed RV storage and garden parcel prior to and independent of the ability to map the larger senior living site development. Thus, there is a potential for a two phase mapping of the project. The RV storage and garden area relocation is the initial phase (Phase I). The CCRC and affordable housing development is the second phase (Phase II). Section 5.6.5 - Environmental Impacts will be broken down by Phase I and Phase II, where appropriate, in order to separate the proposed project's impacts and mitigation by phase. Phase II includes off-site project elements and are described in further detail below.

Proposed Off-Site Project Elements

Off-site project elements anticipated for the proposed project include a storm drain, an alternative location for the storm drain, and a sewer access road.

Storm Drain-Proposed Project

The northwestern portion of the CCRC site (including the majority of the RV storage and garden area and the western detention basins), the southern portion of the CCRC site, and the entire affordable housing site are located within the 100-year floodplain. These portions of the project site must be raised out of the floodplain. To compensate for the loss of floodplain due to the floodplain fills, the proposed project would involve the removal of an average of three feet of soil from the 100-year floodplain area as well as just outside the floodplain from the CCRC site. These lands would be contoured to drain into a proposed storm drain. This drain would convey runoff from the proposed CCRC site through the Rancho Carlsbad Golf Course to Agua Hedionda Creek.

Storm Drain-Alternative 1

An alternative off-site location to the storm drain is also proposed. This alternative location would avoid impacts to the Rancho Carlsbad Golf Course located adjacent to the CCRC site, and would connect to Agua Hedionda Creek where existing riprap is located on the banks within the creek.

Sewer Access Road

As a result of the planned construction of College Boulevard Reach "A," the existing north/south portion of Don Carlos Drive would be realigned to the west and would connect to Don Lorenzo Drive, an existing paved private road which provides access to units located within RCE. In addition, a public sewer (20-foot easement) would be installed within the 24-foot wide realigned road. The proposed sewer line would tie into the existing line located on the north side of Little Encinas Creek.

5.6.1 Existing Conditions

5.6.1.1 Vegetation Communities

Nine vegetation communities have been mapped on the project site based on the biological surveys. Sensitive upland habitats on-site include disturbed valley needlegrass grassland and Diegan coastal sage scrub. Wetland/riparian habitats on-site include southern sycamore-alder riparian woodland and coastal valley and freshwater marsh. Non-sensitive upland habitats on-site include eucalyptus woodland, extensive agriculture, extensive agriculture- sycamore grove, disturbed habitat, and urban/developed. As depicted on Table 5.6-1 and Figure 5.6-1, the project site is dominated by extensive agriculture, urban/developed, and a moderate amount of Diegan coastal sage scrub.

A. Sensitive Upland Habitats

Disturbed Valley Needlegrass Grassland

Disturbed valley needlegrass grassland occurs on 0.2 acre of the CCRC site. This habitat is located on an east-facing slope between coastal sage scrub habitats and is dominated by foothill needlegrass.

TABLE 5.6-1
Summary of Habitats/Vegetation Communities On- and Off-site

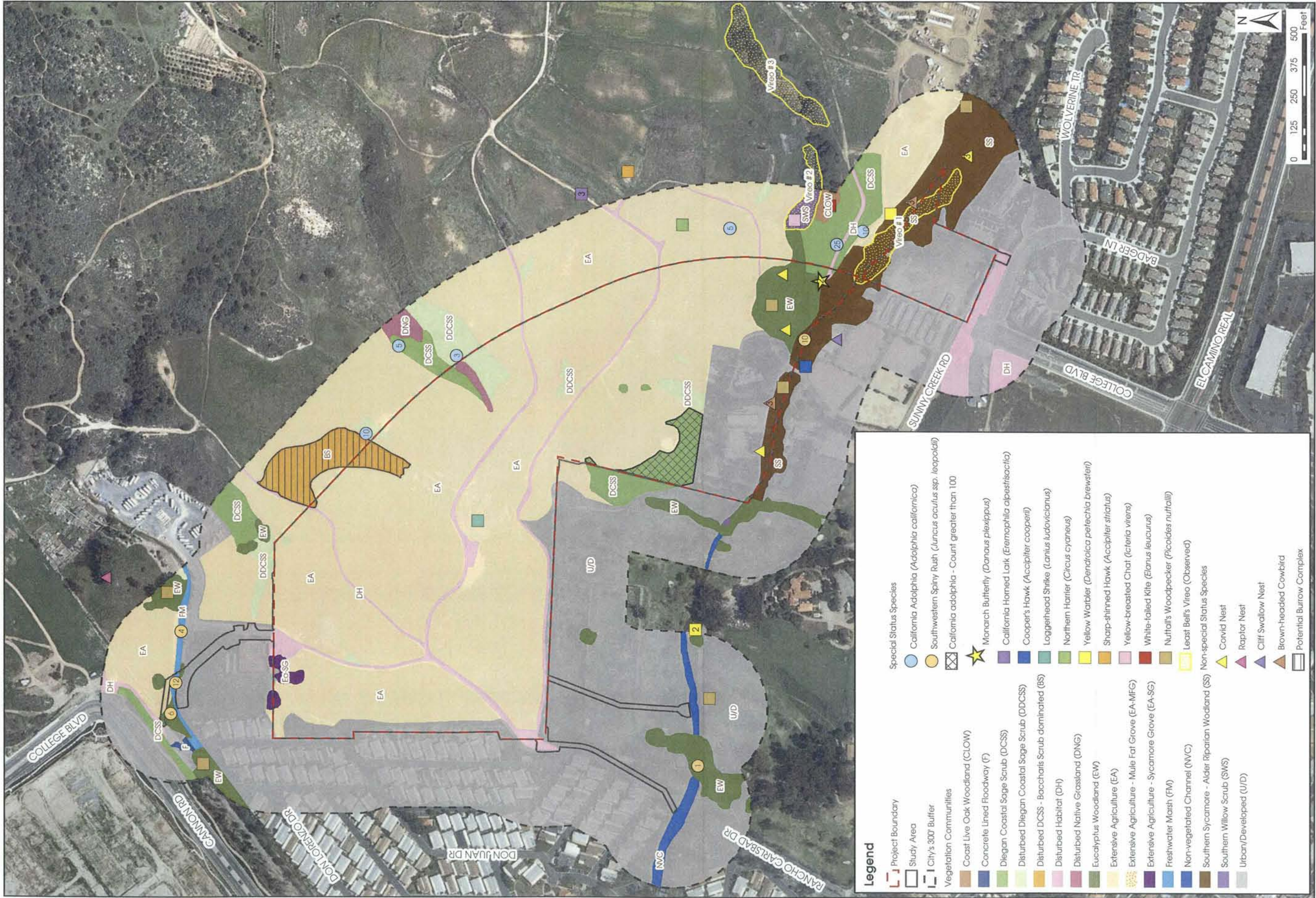
Vegetation Community	HMP Habitat Group ¹	Area (acre) ²		
		On-site	Off-site	Total
Southern Sycamore-Alder Riparian Woodland	Group A	1.6	0.0	1.6
Coastal Valley and Freshwater Marsh	Group A	0.0	<0.1	<0.1
Disturbed Valley Needlegrass Grassland	Group B	0.2	0.0	0.2
Diegan Coastal Sage Scrub	Group D	2.7	0.0	2.7
Extensive Agriculture	Group F	39.1	0.1	39.2
Extensive Agriculture - Sycamore Grove ³	Group F	0.2	0.0	0.2
Eucalyptus Woodland	Group F	1.5	<0.1	1.6
Disturbed Habitat	Group F	2.2	0.1	2.3
Urban/Developed	N/A	8.1	1.2	9.3
Total		55.6	1.5	57.1

Notes: 1 Group A habitats are associated with wetlands, Group C habitats are occupied by coastal California gnatcatcher, and Group D habitats are unoccupied by coastal California gnatcatcher.

2 The study area acreage has been separated based on lands located within the on-site verse off-site parcels.

3 This community does not meet any of the three wetland parameters and does not function as a wetland habitat. Rather it functions as an element of the surrounding habitat and thus, has been identified as extensive agriculture.

Source: Merkel & Associates, Inc., 2010.



SOURCE: SanGIS, 2010; ESRI, 2010; Merkel & Associates, Inc., 2010; BRG Consulting, Inc., 2010

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FIGURE

5.6-1

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Due to the abundance of non-native grasses and forbs throughout the area, it has been identified as a disturbed grassland community. Plant species present include spike-sedge, soap-plant, and spreading goldenbush. This community continues off-site (within the limits of disturbed and associated with College Boulevard Reach "A") within the 300-foot mapping buffer outside the project limits and creates a moderately sized patch of native grassland within the urbanized areas of Carlsbad.

Diegan Coastal Sage Scrub

Diegan coastal sage scrub consists of 2.7 acres on the CCRC site and is limited to the on-site lands north of Agua Hedionda Creek. It can be found in three different states; mature/high quality, disturbed, and Baccharis dominated. The mature and high-quality habitat is dominated by California sagebrush within inclusions of mature tree/shrub species including laurel sumac, lemonadeberry, and toyon. Also present here are black sage, buckwheat, and spreading goldenbush.

Areas of Diegan coastal sage scrub that have a high inclusion of non-native grasses and forbs, are sporadic in nature, and/or contain dumped debris have been identified as a disturbed sage scrub community. In addition, one area of sage scrub, which is dominated by coyote brush and piled with an abundant amount of dumped debris has been identified as disturbed Diegan coastal sage scrub—Bacchraia dominated.

B. Wetland/Riparian Habitats

Southern Sycamore-Alder Riparian Woodland

On-site southern sycamore-alder riparian woodland consists of 1.6 acres. The on-site southern sycamore-alder riparian woodland is associated with Agua Hedionda Creek, a perennial system that conveys water in an east-west direction. Its expansive canopy is dominated by western sycamore with inclusions of mature coast live oak trees along the banks of the creek. Non-native invasive species are also present within the tree canopy and include Mexican fan palm, Canary Island date palm, and eucalyptus. Arroyo willow is the primary tree species that makes up the central layer of this semi-open multi-layer riparian woodland. Understory species include immature Salix species, mule fat, and coyote brush. The herbaceous cover is relatively limited due to the narrow drainage and abundant leaf litter. As a result, most of the flora species are limited to the banks of the drainage and include western poison oak, California blackberry, and western ragweed. Non-native shrub and herbaceous species include tree tobacco, dwarf nettle, and castor bean.

Coastal and Valley Freshwater Marsh

Coastal and valley freshwater marsh consists of less than 0.1 acre. This habitat is associated with Little Encinas Creek, which is a tributary to Calavera Creek. The on-site portion of the Creek is comprised of a narrow incised/eroding drainage system with sporadic, low growing marsh species and no riparian canopy. Concrete/riprap has been placed within and along the Creek's banks at a point of urban runoff and along the sewer easement. Plant species found in this community include celery, watercress, English plantain, bristly ox tongue, low growing spike-rush, and non-native grasses.

C. Non-sensitive Upland Habitats

Eucalyptus Woodland

On-site eucalyptus woodland occurs on 1.5 acres and is limited to the southern portion of the study area, where it serves as a woodland canopy over a vacant residence with equestrian stables. The woodland canopy is comprised of tall mature eucalyptus trees with no shrub layer and little herbaceous cover which is mowed on a regular basis by a caretaker that maintains the surrounding land and stables.

Extensive Agriculture

On-site extensive agriculture occurs on 39.1 acres. The majority of the project site is mapped as extensive agriculture in accordance with the City's Habitat Management Plan (HMP) and Multiple Habitat Conservation Plan (MHCP). Although non-native grasses and forbs dominate this community, the habitat mapping designation is fallow agriculture as these lands are identified within the City's HMP as agriculture and they have been cultivated in three of the last five years or according to accepted agricultural practices. The dominant species representing this community are non-native annual species including *Avena*, *Hordeum*, *Bromus*, and *Erodium* species, intermixed with a variety of common native and non-native species including doveweed and wild radish.

A small grove of approximately eight individual mule fat shrubs has been identified within the central portion of the CCRC site. This micro-habitat is located at the base of a hill surrounded by extensive agriculture lands. Although this community is comprised of mule fat, a species commonly associated with water habitats, this patch of individuals is not associated with a bed or bank of a tributary and lack soils associated with wetland communities. Overall, this community does not meet any of the three wetland parameters as documented within the jurisdictional wetland delineation (Appendix 4 and 5, DP#6) form and does not function as a riparian or wetland habitat. Rather, it functions as an element of the surrounding habitat, thus it has been identified as extensive agriculture.

Extensive Agriculture- Sycamore Grove

Extensive agriculture-sycamore grove occurs on 0.2 acre. One area of sycamore grove has been identified in the northern extent of the proposed RV storage/garden area of the CCRC site and is highly associated with the irrigated turfed recreational area utilized by the Rancho Carlsbad Estates (RCE) residents. Approximately three mature sycamores and one arroyo willow are located in a low-lying area adjacent to an existing tennis court and picnic area of the RCE. Based on results from the jurisdictional wetland delineation, this area does not support hydrophytic vegetation due to the lack of hydrophytic plants and inclusion of non-native upland grasses. No wetland hydrology indicators are present, as this low-lying area does not support a defined channel. Due to the current low-lying terrain and proximity to the adjacent recreational areas, an approximate 18-inch PVC storm drain with a drop inlet is located between the grove and the tennis court to drain water from the recreational areas following heavy rain events. This storm drain conveys runoff north to Little Encinas Creek. Overall, this community does not meet any of the three wetland parameters as documented within the jurisdictional wetland delineation form (Appendix 4 and 5, DP#6) and does not function as a riparian or wetland habitat. Rather, it functions as an element of the surrounding habitat, thus it has been identified as extensive agriculture.

Disturbed Habitat

Disturbed habitat occurs on 2.2 acres and consists of existing dirt roads throughout the study area, as well as areas near existing development that are primarily devoid of vegetation and have compacted soils.

Urban/Developed

Urban/developed land occurs on 8.1 acres on-site, with portions occurring on the western boundary and the southern portion of the CCRC site and the majority of the affordable housing site. Off-site urban/developed lands consist of all residential lands associated within the Rancho Carlsbad housing community and golf course. This includes the non-native vegetation/ornamental plants associated with adjacent residential usage. Flora species found in these areas include pines, Mexican fan palms, acacia, and trailing iceplant. It should be noted that individual trees located within the golf course have not been mapped due to the lack of biological value. However, canopies that form as a result of multiple trees in the immediate proximity to each other have been identified as the appropriate habitat (ex. eucalyptus woodland). Agua Hedionda Creek runs through the on-site portion of the golf course; areas outside of the OHWM have been identified as urban/developed due to the maintenance of the surrounding golf course and inclusion of urban related species such as large crabgrass and red apple ice plant. In addition to the hardscape development, urban developed lands also include the irrigated turfed park found at the northern end of the study area. Rancho Carlsbad residents utilize this area for recreational purposes and the area is manicured and maintained. The majority of the affordable housing site and southern parcel of the CCRC site has been mapped as urban/developed due to the existing structures (vacant single-family home and accessory structures) and developed intensive uses on the pads.

Non-Vegetated Channel

The downstream portion of Agua Hedionda Creek, which runs through the Rancho Carlsbad Golf Course and is devoid of woodland canopy has been mapped as non-vegetated channel (primarily located within the 300-foot mapping buffer). The OHWM associated with the Creek has been identified as non-vegetated channel because of the sporadic nature of flora species within the bed. Vegetation within the water is limited to non-native grasses. Flora species above the OHWM but within the Creek's banks were non-native grasses and forbs including Bermuda grass, bristly ox tongue, English plantain, mustard species, and red apple iceplant. All of these non-native species and drainage banks are maintained by the golf course and thus, are associated with urban/development.

5.6.1.2 Jurisdictional Areas and Wetland/Riparian Habitats

Non-wetland and wetland areas are considered sensitive by local (City of Carlsbad, 1999), state (California Department of Fish and Game [CDFG]), and federal (Army Corps of Engineers [ACOE]) agencies. These areas are regulated by the ACOE under Section 404 of the Clean Water Act (CWA) and by the CDFG under Section 1602 of the California Fish and Game Code. Compliance with Section 401 of the CWA (Water Quality Certification) is also required as part of the Section 404 CWA permit approval.

The on-site wetland resources are associated with Little Encinas Creek, Agua Hedionda Creek, an unnamed tributary to Agua Hedionda Creek, and disturbed drainages within the upland communities. Overall, the entirety of the wetland and non-wetland resources has been heavily impacted by urban,

recreational, and agricultural land use. The project site contains four jurisdictional resources—southern sycamore-alder riparian woodland, coastal and valley freshwater marsh, non-wetland waters of the U.S./Streambed (NWW), and an isolated drainage. Figure 5.6-2 depicts the location of each of these jurisdictional resources. Southern sycamore-alder riparian woodland is the primary wetland feature within the project site and is located along the southern boundary of the CCRC site (along the proposed Open Space parcel) and the northern boundary of the affordable housing site. Coastal valley freshwater marsh is limited to Little Encinas Creek, located north of the CCRC site and adjacent to proposed off-site sewer improvements. Non-wetland waters of the U.S./Streambed include an unnamed tributary to Agua Hedionda Creek located just north of the creek, and the downstream portion of Agua Hedionda Creek that runs through the Rancho Carlsbad Golf Course. The isolated drainages (streambeds) are found in the eastern portion of the CCRC site (i.e., College Boulevard Reach "A" project footprint). Table 5.6-2 identifies the ACOE and CDFG non-wetland waters/unvegetated streambed and wetlands/riparian vegetation occurring in each of the jurisdictional resources.

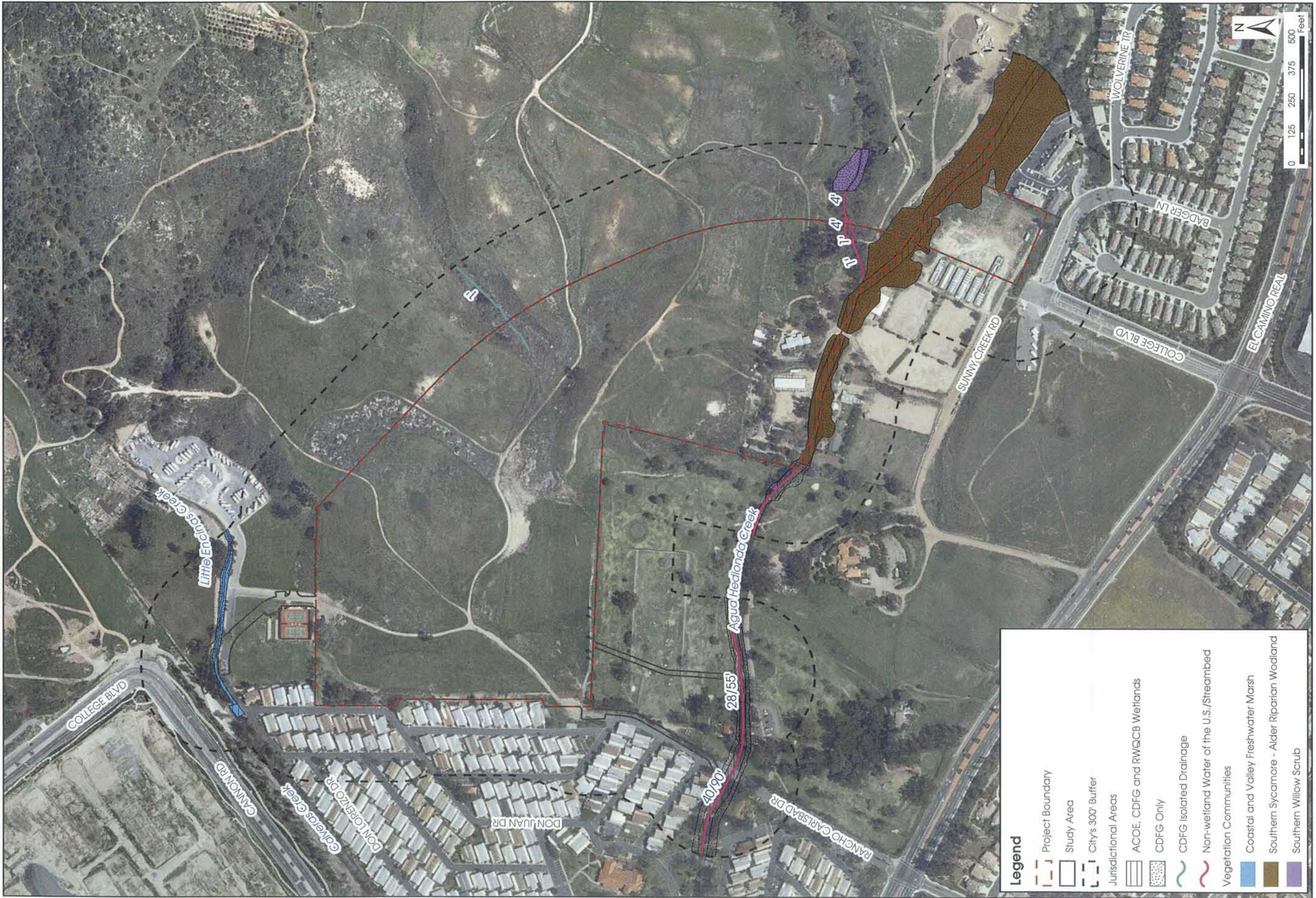
A. Southern Sycamore-Alder Riparian Woodland

The southern sycamore-alder riparian woodland consists of 1.6 acres. Approximately 0.6 acre of ACOE jurisdiction (inclusive of CDFG and Regional Water Quality Control Board) are associated with on-site southern sycamore-alder riparian woodland. 1.0 acre is under CDFG jurisdiction with adjacent riparian habitat.

Agua Hedionda Creek is a well-defined drainage system and supports a mature and relatively expansive canopy dominated by western sycamore with a central layer comprised of mature *Salix* species and understory of wetland and non-wetland flora. On-site jurisdictional southern sycamore-alder riparian woodland along Agua Hedionda Creek is dominated by western sycamore, arroyo willow, and mule fat. Wetland hydrology was present at various locations due to the presence of surface water and water-stained leaves. In addition hydric soils were present within the Creek due to surface water. Based on data points, ACOE jurisdiction (inclusive of CDFG and RWQCB) is limited to the OHWM and encompasses the creek only. The remainder (adjacent) southern sycamore-alder riparian woodland is considered adjacent riparian habitat and is jurisdictional under CDFG only.

B. Coastal and Valley Freshwater Marsh

ACOE jurisdiction (inclusive of CDFG and RWQCB) is limited to the OHWM, while the remainder of the drainage would be regulated as a streambed under state jurisdiction. Little Encinas Creek is an incised/eroding drainage system and supports sporadic, low growing wetland herbaceous species including celery, watercress, and English plantain with inclusions of upland species such as non-native grasses and forbs. Wetland hydrology was determined within the narrow drainage via surface water as well as drift deposits and drainage patterns. Hydric soil conditions were also determined to be met within the drainage based on the presence of a sandy gleyed matrix. Overall, the quality of marsh habitat is extremely low due to the sporadic low-growing nature of the flora species within the drainage and the inclusion of non-native upland species as well as the concrete/riprap that has been placed within and along the Creek's banks. ACOE jurisdiction (inclusive of CDFG and RWQCB) is limited to the OHWM. The remainder of the drainage (i.e., bank to bank) would be regulated as a streambed under state jurisdiction.



SOURCE: SanGIS, 2010; ESRI, 2010; Merkel & Associates, Inc., 2010; BRG Consulting, Inc., 2010



BRG CONSULTING, INC.

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On-Site Drainages

FIGURE

5.6-2

TABLE 5.6-2
Summary of Jurisdictional Resources

Jurisdictional Resources	Total Area (acre)	Area (Acre)						Grand Total
		On-site			Off-site			
		ACOE/ CDFG/ FWQCB	CDFG	CDFG- Adjacent Riparian Habitat	ACOE/ CDFG/ FWQCB	CDFG	CDFG- Adjacent Riparian Habitat	
Southern Sycamore-Alder Riparian Woodland	1.6	0.6	0.0	1.0	0.0	0.0	0.0	1.6
Coastal and Valley Freshwater Marsh	<0.1	0.0	0.0	0.0	<0.1 i.e., 0.01	<0.1 i.e., 0.01	0.0	<0.1
NWW	<0.1	<0.1 i.e., 0.01	0.0	0.0	0.0	<0.1 i.e., 0.02	0.0	<0.1
Isolated Drainage	<0.1	0.0	0.0	0.0	0.0	<0.1 i.e., 0.003	0.0	<0.1
Total:	1.6	0.6	0.0	1.0	<0.1	<0.1	0.0	1.7

Notes: The study area acreage has been separated based on lands located within the on-site verse off-site parcels.

Source: Merkel & Associates, Inc., 2010.

C. Non-Wetland Waters of the U.S./Streambed

An unnamed tributary to Agua Hedionda Creek is located just north of the creek and conveys water in a northeast to southwest direction. The unnamed tributary and Agua Hedionda Creek merge just downstream of the study area boundary. Prior to merging with the Creek, the tributary conveys water through off-site wetland communities (i.e., southern willow scrub) as well as on-site eucalyptus woodland. It is here where the tributary conveys water through the study area boundary (i.e., College Boulevard Reach "A" project footprint) under the eucalyptus woodland canopy via a narrow incised channel. Due to the lack of hydrophytic vegetation, the channel under the eucalyptus woodland canopy has been identified as NWW. The tributary is bound to the north by extensive agriculture and to the immediate south by a hillside comprised primarily of oak woodland.

The downstream portion of Agua Hedionda Creek, which runs through the Rancho Carlsbad Golf Course and is devoid of woodland canopy, has been mapped as either non-vegetated channel or urban/developed. Specifically, the OHWM associated with the creek has been called out as non-vegetated channel, which is classified as a NWW per ACOE due to the lack of significant vegetation within the bed. The Applicant has designed the project to avoid impacts to the OHWM; thus, this community is located within the 300-foot mapping buffer only. Species observed in the water were limited to non-native grasses. The OHMW waters of the U.S. extend from the channel to part of the way up the slope; the higher banks are limited to waters regulated as streambed and bank by CDFG. Flora species within the Creek's banks are dominated by non-native grasses and forbs including Avena and Erodium species with inclusions of large crabgrass, bristly ox tongue, and English plantain. Overall, the segment of Creek that runs through

the golf course is devoid of mature native riparian vegetation and maintained as a result of the golf course activities. Riprap has also been placed within the Creek. Several individual/immature *Salix* and mule fat shrubs are upstream but do not have any biological value because of their sporadic nature. Eucalyptus woodland is the primary canopy that hangs over the Creek (where present).

D. Isolated Drainages (Streambeds)

On-site streambeds are located on the College Boulevard-Reach "A" project footprint (EIR No. 98-02, SCH No. 99111082). These streambeds consist of swales with short, disturbed incised channels lacking watermarks. The channels are dominated by upland species such as horseweed, short-pod mustard, broom baccharis, and Russian thistle. In addition, these areas have experienced some disturbance as trash and concrete debris were found. The drainages do not connect with off-site tributaries and lack wetland indicators other than drainage patterns and in some portions, incising. Therefore, they are jurisdictional under CDFG as a streambed.

5.6.1.3 Sensitive Species

Sensitive species per the City are those considered unusual or limited in that the species are: 1) included on generally accepted and documented lists of plants and animals of endangered, threatened, candidate or of special concern by the Federal Government or State of California; 2) Carlsbad HMP Covered Species; 3) Carlsbad HMP Narrow Endemic Animal Species; 4) Carlsbad HMP Narrow Endemic Plant Species; or 5) those species that meet the definition of "Rare or Endangered Species" under the State CEQA Guidelines. Figure 5.6-1 identifies the location of on-site sensitive plant and animal species observed during field surveys.

A. Sensitive Plants

For the purposes of this EIR, sensitive plants include those listed by USFWS, CDFG, the California Native Plant Society, and those considered to be covered and/or narrow endemic species in the City's HMP. Two sensitive plant species were found on-site: California adolphia and southwestern spiny rush.

A population of more than 100 California adolphia plants is located within the high quality Diegan coastal sage scrub within the southwestern portion of the CCRC site. The study area also supports sporadic patches totaling approximately 18 individuals within the CCRC site. In addition, approximately 40 individuals are located within the 300-foot mapping buffer (i.e., within 300 feet of the project site boundary). Approximately 16 mature and immature southwestern spiny rush shrubs are within the coastal and valley freshwater marsh of Little Encinas Creek, located immediately north of the CCRC site. In addition, 16 immature shrubs are located within Little Encinas Creek and Agua Hedionda Creek downstream of the study area within the 300-foot mapping buffer. California adolphia and southwestern spiny rush are mapped on Figure 5.6-1. The status of these species is addressed within Table 5.6-3.

The potential for additional sensitive floral species to be on-site is considered low due to the disturbed nature of most of the on-site habitat and the fairly high degree of biological surveys that have been performed within the study area over multiple years (inclusive of the 2009 rare plant survey). The following species were not detected and have a low probability of occurrence on-site: thornmint, San Diego

ambrosia, Palmer's sagewort, thread-leaved brodiaea, Orcutt's brodiaea, California large-leaf fillary, Del Mar Mesa sand aster, Blochman's duddeleya, San Diego button celery, coast barrel cactus, Orcutt's hazardia, graceful tarplant, and San Diego goldenstar.

TABLE 5.6-3
Special Status Floral Species Observed On-Site

Species Name	Federal Status	California Status	CNPS Status	California Natural Diversity Database (CNDDDB) Status	Carlsbad HMP
California Adolphia	n/a	n/a	List 2	SP	n/a
Southwestern Spiny Rush	n/a	n/a	List 4	n/a	n/a

Notes: n/a- not applicable to the particular regulation/plan.
Source: Merkel & Associates, Inc., 2010.

B. Sensitive Animals

Sensitive animal species include those listed by USFWS, CDFG, CNDDDB, and those considered to be covered species and/or narrow endemic species under the HMP. Eleven sensitive animal species were detected on-site. The mapped locations of these fauna species represent commonly perched and/or flyover locations only. Table 5.6-4 lists all of the special status species observed on-site and their status under federal, state, and local regulations and plans.

TABLE 5.6-4
Special Status Faunal Species Observed On-site

Species Name	Federal Status	California Status	Carlsbad HMP
Monarch butterfly	-	-	-
Cooper's hawk	-	-	Covered
Sharp-shinned hawk	-	SSC	-
Northern harrier	-	SSC	-
Yellow warbler	-	SSC	-
White-tailed kite	-	FP	-
California horned lark	-	SSC	-
Yellow-breasted chat	-	SSC	-
Loggerhead shrike	-	SSC	-
Nuttall's woodpecker	-	-	-
Least Bell's vireo	FE	SE	Covered

Notes: Endangered Species Act (ESA) Listing Codes (April 15, 2004): FE=Federally listed as Endangered
California Endangered Species Act (CESA): SE=State-listed as Endangered,
California Department of Fish and Game (DFG): SSC=Species of Special Concern, FP=California fully protected species.

Source: Merkel & Associates, Inc., 2010.

A number of additional sensitive species are known from the region, but were not detected on the site during surveys. Some species potentially occurring (undetected) on-site include the following:

Hermes Copper Butterfly. This species utilizes mixed woodlands, chaparral, and coastal sage scrub. Limited sage scrub suitable for this species is found on-site, with greater amounts and higher quality of sage scrub in the eastern portion of the project site. The Hermes copper butterfly has a low potential to occur on-site.

Western Spadefoot Toad. If this species is present, it would occur almost exclusively in shallow, temporary pools, typically within grassland habitat. The western spadefoot toad has a low potential to occur on-site.

San Diego Ringneck Snake. This species may occur within chaparral and grassland habitats. The San Diego ringneck snake has a moderate potential to occur on-site.

Tricolored Blackbird. This species feeds in grasslands and croplands, and breeds near freshwater preferably in marshes or other emergent wetlands. The tricolored blackbird has a low potential to occur on-site.

Southern California Rufous-crowned Sparrow. This species is present in sparse, mixed chaparral and sage scrub habitats. The southern California rufous-crowned sparrow has a low potential to occur on-site.

Southwestern Willow Flycatcher. This species utilizes riparian woodland. The southwestern willow flycatcher has a low potential to occur on-site.

Pallid bat. This nocturnal bat is a yearlong resident throughout California and occurs in a wide variety of habitats including grasslands, shrublands, and woodlands. The pallid bat has a low potential to occur on-site.

Northwestern San Diego Pocket Mouse. This species may occur in coastal sage scrub, chaparral and grasslands. The northwestern San Diego pocket mouse has a moderate potential to occur on-site.

Pocketed Free-tailed Bat. This species occurs in woodlands and riparian habitats. The pocketed free-tailed bat has a moderate potential to occur on-site.

The orange-throated whiptail was the only species that was not verified on-site and has a high potential to occur within on-site Diegan coastal sage scrub. Refer to Appendix E provided on the attached CD of Technical Appendices found on the back cover of this EIR for a full listing of both the special status species detected in the study area as well as those having the potential to occur in the area. This listing includes respective sensitivity listing status, suitable habitat identification, and an assessment of the potential for presence in the study area. Focused, protocol surveys were used to determine the presence/absence for burrowing owl, Coastal California gnatcatcher, least Bell's vireo and southwestern willow flycatcher. The results of these surveys are discussed below.

Burrowing Owl

Suitable habitat for the burrowing owl is limited, respectively, at the northern portion of the project site, where baccharis dominated sage scrub occurs. No burrowing owls or evidence of burrowing owls were detected on-site or adjacent to the study area during the 2009 nesting season surveys. In addition, no nesting or wintering burrowing owls have been documented on the project site or within the vicinity of the site.

Per the City's HMP, burrowing owls have been documented near Palomar Airport, the municipal golf course site, HMP Core Areas 5 and 7, and along the north side of Agua Hedionda Lagoon. All of these locations, with the exception of Core Area 5, are located approximately one mile off-site. A small portion of the southwestern corner within Core Area 5 supports Agua Hedionda Creek, but is not suitable for the burrowing owl. Based on the on-site habitat conditions and the lack of burrowing owls on the project site or within the vicinity of the site, there is a low potential for the burrowing owl to occur on-site.

Coastal California Gnatcatcher

No coastal California gnatcatchers were detected on-site or within the 300-foot mapping buffer during the 2009 or 2006 protocol surveys. The northern portion of the 300-foot mapping buffer is expected to have the highest potential to support gnatcatchers due to the high quality of flora components and connectivity to the off-site sage scrub. Although the Diegan coastal sage scrub located in the southern portion of the CCRC site supports high quality sage scrub, there is a lack of connectivity to a larger tract of habitat, and thus the area has a low potential to support gnatcatchers.

Least Bell's Vireo and Southwestern Willow Flycatcher

One male least Bell's vireo (Vireo #1) and no southwestern willow flycatchers were detected on the project site during the 2009 focused surveys. Two additional male vireos (Vireo #s 2 and 3) were detected but were off-site. Vireo #2 was detected southeast of the CCRC site project boundary, while Vireo #3 was detected further east. The areas in which the birds were detected are called "observed use areas."

Vireo #1 was an unbanded, paired adult male with at least two fledglings. This bird occupied the portion of Agua Hedionda Creek located along the northern boundary of the affordable housing site. Agua Hedionda Creek is the primary wetland feature within the study area. The Creek is well defined and supports a mature and relatively expansive canopy dominated by western sycamore with a central riparian core comprised of mature willows. The observed use area associated with this vireo is located within the proposed College Boulevard- Reach "A" alignment.

Vireo #2 was an adult male that occupied the western portion of the unnamed tributary to Agua Hedionda Creek, located east of the southern portion of the CCRC site. The unnamed tributary supports a relatively open canopy of mature southern willow scrub with freshwater marsh constituents throughout the understory. Vireo #2's observed use area was within the 300-foot mapping buffer. Based on behavior, this bird was presumed to be paired and have a nest; however fledglings were never detected during the 2009 focused surveys.

Vireo #3 was an unbanded, paired male with at least two fledglings. The observed use area associated with Vireo #3 was along the eastern portion of the unnamed tributary to Agua Hedionda Creek, just outside the City required 300-foot mapping buffer.

5.6.2 Habitat Management Plan

A majority of the Dos Colinas project site is located within a "Proposed Standards Area" of the Habitat Management Plan (HMP) for Natural Communities in the City of Carlsbad (see Figure 3-17). The HMP defines "Standards Area" as lands designated and depicted in Figure 15 [of the HMP] which must be designed, permitted and developed in accordance with the Standards stated in Section D [of the HMP]." In addition, the project site comprises the central portion of Zone 15 of the HMP. The eastern half of Zone 15 is considered an integral part of the overall open space preserve system since it contains Linkage Area B, a critical wildlife corridor between Core Areas 3 and 4 (also a part of Zone 15) of the HMP. The proposed project is not located within a Linkage or Core Area; however, the northeast corner of the affordable site is located adjacent to the southwestern extent of Focus Planning Area Core 5. Core Area 5 is approximately 884 acres in area and is located along the eastern border of Carlsbad in the central section of the City. The area supports a large upland area including chaparral, coastal sage scrub, and grassland.

The proposed project would preserve approximately 7.0 acres of open space. A total of 1.88 acres (0.67 acre for the affordable housing site and 1.21 acres on the CCRC site) would be preserved through a biological conservation easement while the remaining area, 5.19 acres (CCRC site), will be preserved through an open space easement. However, in accordance with the standards contained in the HMP for the project site, the proposed project does not preserve and protect at least 67% of habitat on-site.

The northwestern portion of the CCRC site (including the majority of the RV storage and garden area and the western detention basins), the southern portion of the CCRC site, and the entire affordable housing site are located within the 100-year floodplain. Consequently, the project proposes to raise certain areas proposed for development out of the floodplain. Specifically, an area north of Agua Hedionda Creek will be raised out of the floodplain to accommodate the RV storage area, the emergency access road, and a portion of the northern cluster of cottages and Independent Living building site. In addition, an area adjacent to the south cluster of cottages will be raised out of the floodplain to accommodate a detention basin. The affordable housing site will be raised out of the floodplain approximately 10 feet, from its existing ground elevation of approximately 73.2 feet to a pad elevation of 83.9 feet.

In addition, the Carlsbad HMP references the wildlife corridor status of Agua Hedionda Creek, which runs from east to west through the southern portion of the CCRC site and the north portion of the affordable housing site. Therefore, the riparian habitats in association with Agua Hedionda Creek and any native upland habitats which lie adjacent to the creek and provide a buffering effect or contribute to the corridor's effectiveness would be considered sensitive.

5.6.3 Thresholds for Determining Significance

5.6.3.1 CEQA Guidelines Appendix G Thresholds of Significance

For the purposes of this EIR, a significant impact would occur if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish & Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish & Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors; or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as the Habitat Management Plan (HMP) for Natural Communities in the City of Carlsbad, a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local (i.e., HMP) regional, or state habitat conservation plan.

5.6.3.2 HMP Thresholds of Significance

For the purposes of this technical report, a significant biological resources impact has been assessed if implementation of the proposed project would result in:

- Inconsistency with the adopted Carlsbad HMP;
- Impacts to Habitat Groups A-F;
- Any impacts to federally or state listed species, including impacts to occupied habitats; or
- Loss of a "significant population" of a sensitive species; where the loss would substantially reduce the likelihood of the survival and recovery or restrict the range of the species.

Impacts to non-sensitive habitats are generally not considered significant. If, however, the densities of sensitive species within the habitat were sufficiently high or the habitat functioned as an important wildlife movement corridor, habitat linkage, or crucial foraging habitat, impacts could be considered significant.

5.6.4 Environmental Impact

5.6.4.1 Direct Impacts

Analysis of direct project impacts is based on the limits of grading for the project, which includes complete development of the CCRC site, RV storage and garden area, and affordable housing site, slopes needed to support the development, a series of detention and hydromodification basins, and a 60-foot wide fuel modification zone. The fuel modification zone is required per the City of Carlsbad Landscape Manual and fire department requirements and is depicted on Figure 5.10-3 (see EIR Section 5.10—Hazardous Materials and Hazards). The proposed fuel modification zone is located along the southern portion of the CCRC site and within the affordable housing development, which has been incorporated within the parking lot for the affordable housing site. Permanent off-site impacts would be incurred as a result of the realignment of Don Carlos Drive from the Rancho Carlsbad Estates to the planned CCRC site. Figure 5.6-3 depicts the biological impacts associated with development of the project. Table 5.6-5 identifies the permanent habitat/vegetation impacts.

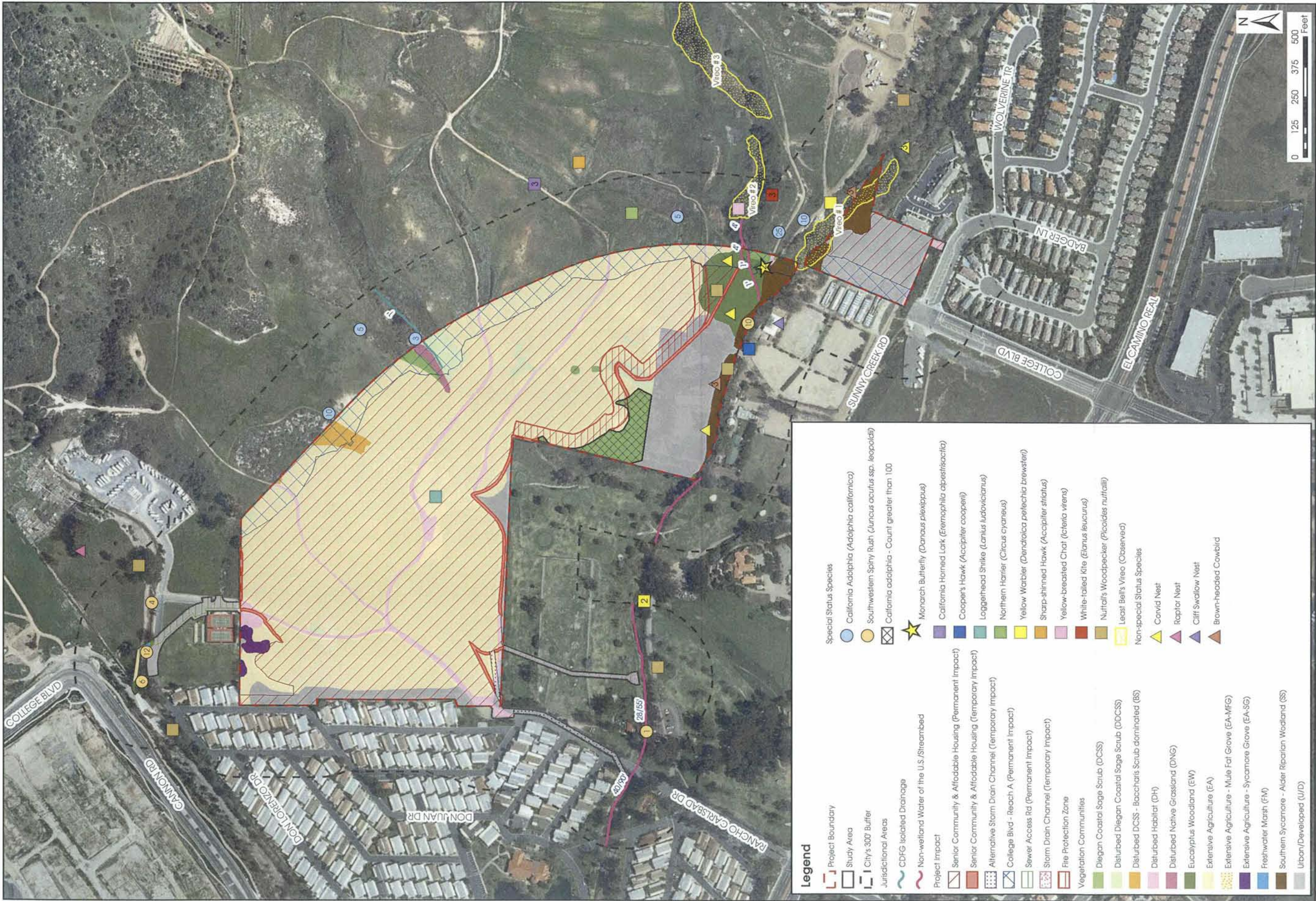
Temporary direct impacts would also occur on-site along segments of the western and southern boundaries of the CCRC site. Temporary direct impacts would occur off-site with the development of the underground storm drain, which would convey runoff from the CCRC site through Rancho Carlsbad Golf Course to Agua Hedionda Creek. A 10-foot buffer would be required for the initial construction of the development project. Once completed, all temporary disturbance areas would be reseeded with comparable species as presently existing for erosion purposes. Table 5.6-6 identifies the temporary habitat/vegetation impacts associated with implementation of the proposed project.

A. Vegetation Community Impacts

The proposed project would result in permanent and temporary impacts to many of the habitats on and off-site. Table 5.6-5 and Table 5.6-6 identify these impacts per project element, while Figure 5.6-3 depicts the location of the impact. The following sections describe in detail how each element of the proposed project would result in impacts and their significance in accordance with CEQA and the City's HMP. Table 5.6-7 identifies the HMP mitigation ratio/requirement and required mitigation for permanent impacts for each vegetation community. Table 5.6-8 identifies the HMP/mitigation ratio/requirement and required mitigation for temporary impacts for each vegetation community.

Phase I-RV Storage and Garden Area

The RV storage and garden area parcel would be relocated within the subdivision of Dos Colinas during the initial phase. The RV storage and garden area parcel is designed to replace existing off-site facilities located northeast of College Boulevard – Reach "A" on property owned by the RCOA. The facilities are required to be relocated as a mitigation measure of the College Boulevard Reach "A" EIR (EIR No. 98-02, SCH No. 99111082). College Boulevard – Reach "A" is a City approved City Circulation Element Road and identified as a major arterial within a 102-foot right of way. Habitats permanently impacted during this phase are limited to extensive agriculture, disturbed habitat, and urban/developed lands. The dominant species representing the agricultural community are non-native annual species including *Avena*, *Hordeum*,



SOURCE: SanGIS, 2010; ESRI, 2010; Merkel & Associates, Inc., 2010; BRG Consulting, Inc., 2010

Dos Colinas EIR

Biological Impacts



FIGURE

5.6-3

TABLE 5.6-5
Summary of Habitat/Vegetation Community Permanent Impacts within the Study Area

Vegetation Community	HMP Habitat Group	Total Acreage ¹	Project Elements and Alternatives Permanent Impacts (acre)										Cumulative Project Element Total (acre)		Significance Under CEQA and HMP				
			Initial Phase	Second Phase								Both Phases							
				RV Parking/Garden Parcel	Planned Senior Community & Affordable Housing Development	Storm Drain		Sewer Access Road		Total - Proposed Project	Total - Storm Drain Alternative ¹			Proposed Project		Storm Drain Alternative ¹			
																	Proposed Project Onsite	Proposed Project Offsite	Total
Southern Sycamore-Alder Riparian Woodland	Group A	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	No Impact					
Coastal and Valley Freshwater Marsh	Group A	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	No Impact					
Disturbed Valley Needlegrass Grassland	Group B	0.2	0.0	<0.1	0.0	<0.1	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	Yes					
Diegan Coastal Sage Scrub	Group D	2.7	0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.6	0.6	Yes					
Extensive Agriculture	Group F	39.2	7.0	27.2	0.0	27.2	0.0	0.0	0.0	0.1	27.3	27.3	34.3	Yes					
Extensive Agriculture - Sycamore Grove ²	Group F	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	No Impact					
Eucalyptus Woodland	Group F	1.6	0.0	0.5	0.0	0.5	0.0	0.0	<0.1	<0.1	0.5	0.5	0.5	Yes					
Disturbed Habitat	Group F	2.3	0.6	1.1	0.1	1.2	0.0	0.0	<0.1	<0.1	1.2	1.2	1.8	Yes					
Urban/Developed	N/A	9.3	1.0	2.4	<0.1	2.5	<0.1	<0.1	0.3	2.8	2.8	3.9	3.8	No					
Total ³ :		57.1	8.6	31.8	0.1	32.0	<0.1	<0.1	0.4	32.4	32.4	41.1	41.0						

Notes: 1= The total acreage is representative of the cumulative total for onsite and offsite habitat within the study area boundary. Refer to Table 2 for a break down of onsite and offsite habitat found within the study area boundary; 2 = This community does not meet any of the three wetland parameters and does not function as a wetland habitat; rather it functions as an element of the surrounding habitat and thus, has been identified as extensive agriculture. Refer to the Botanical Resources –Flora Section within this report for detail; 3 = Acreages have been rounded to the tenths; thus, the total may not match manual versus Microsoft Excel calculation.

Source: Merkel & Associates, Inc., 2010

TABLE 5.6-6
Summary of Habitat/Vegetation Community Temporary Impacts within the Study Area

Vegetation Community	HMP Habitat Group	Total Acreage ¹	Project Elements and Alternatives Temporary Impacts (acre)												Cumulative Project Element Total (acre)		
			Initial Phase RV Parking/ Garden Parcel Proposed Project	Second Phase											Both Phases		
				Planned Senior Community & Affordable Housing Development		Storm Drain			Sewer Access Road		Total - Storm Drain Alternative 1	Total - Proposed Project	Proposed Project	Storm Drain Alternative 1	Significance Under CEQA and HMP		
				Proposed Project	Onsite	Offsite	Total	Proposed Project	Onsite	Offsite						Total	Proposed Project
Southern-Sycamore-Alder Riparian Woodland	Group A	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	No Impact	
Coastal and Valley Freshwater Marsh	Group A	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	No Impact	
Disturbed Valley Needleglass Grassland	Group B	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	No Impact	
Diegan Coastal Sage Scrub	Group D	2.7	0.0	<0.1	0.0	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	Yes and Area to be returned to preexisting conditions	
Extensive Agriculture	Group F	39.2	0.1	0.2	0.1	0.3	0.0	<0.1	0.0	<0.1	0.0	0.0	0.3	0.4	0.4	No – Area to be returned to preexisting conditions	
Extensive Agriculture - Sycamore Grove 2	Group F	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	No Impact	
Eucalyptus Woodland	Group F	1.6	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	<0.1	0.1	0.1	0.1	No – Area to be returned to preexisting conditions	
Disturbed Habitat	Group F	2.3	0.1	0.1	0.0	0.1	<0.1	0.0	<0.1	0.0	0.0	0.0	0.1	0.2	0.2	No – Area to be returned to preexisting conditions	

TABLE 5.6-6 (cont'd.)
Summary of Habitat/Vegetation Community Temporary Impacts within the Study Area

Vegetation Community	HMP Habitat Group	Total Acreage ¹	Project Elements and Alternatives Temporary Impacts (acre)										Cumulative Project Element Total (acre)					
			Initial Phase	Second Phase								Both Phases						
				RV Parking/Garden Parcel	Planned Senior Community & Affordable Housing Development	Storm Drain				Sewer Access Road	Total - Proposed Project				Total - Storm Drain Alternative ¹	Proposed Project	Storm Drain Alternative ¹	Significance Under CEQA and HMP
						Proposed Project Onsite	Proposed Project Offsite	Total	Alternative 1 Onsite									
Urban/Developed	N/A	9.3	<0.0	0.1	<0.1	0.1	0.3	0.0	0.3	0.3	0.0	0.4	0.4	0.4	No – Area to be returned to preexisting conditions			
	Total ³ :	57.1	0.2	0.6	0.1	0.6	0.3	0.1	0.3	0.3	<0.1	0.9	1.0	1.1	1.2			

Notes: 1 = The total acreage is representative of the cumulative total for onsite and offsite habitat within the study area boundary. Refer to Table 2 for a break down of onsite and offsite habitat found within the study area boundary. 2= This community does not meet any of the three wetland parameters and does not function as a wetland habitat; rather it functions as an element of the surrounding habitat and thus, has been identified as extensive agriculture. Refer to the Botanical Resources –Flora Section within this report for detail. 3 = Acreages have been rounded to the tenths; thus, the total may not match manual versus Microsoft Excel calculation.

Source: Merkel & Associates, Inc., 2010.

TABLE 5.6-7
Mitigation Required for Significant Permanent Impacts

HMP Habitat Group/ Vegetation Type	Project Elements – Total Permanent Impact (acreage)		Mitigation Ratio/Fee ²	Required Mitigation (acreage)		Mitigation Location – Proposed Project		
	Initial Phase Proposed Project	Second Phase Proposed Project ¹		Initial Phase Proposed Project	Second Phase Proposed Project	Riparian Biological Open Space (Total of 0.67-acre area)	Upland Biological Open Space (Total of 1.21- acre area)	Agriculture, Eucalyptus Woodland, and Disturbed Habitat In Lieu Mitigation Fee
A. Non-wetland Waters of the U.S.	0.0	<0.1	1:1	0.0	0.01	0.01	NA	NA
B. Disturbed Valley Needlegrass Grassland	0.0	<0.1	3:1	0.0	0.12	NA	0.12	NA
D. Diegan Coastal Sage Scrub	0.0	0.6	1:1	0.0	0.60	NA	0.60	NA
F. Extensive Agriculture	7.0	27.3	Fee	Fee	Fee	NA	NA	Mitigation Fee
F. Eucalyptus Woodland	0.0	0.5	Fee	Fee	Fee	NA	NA	Mitigation Fee
F. Disturbed Habitat	0.6	1.2	Fee	Fee	Fee	NA	NA	Mitigation Fee
Total:	7.6	29.6		0.0	0.73	0.01	0.72	Mitigation Fee

Notes: ¹ = The total significant impacts associated with the Storm Drain Alternative 1 are equal to the Proposed Project. In the event the Storm Drain Alternative 1 alignment is selected, mitigation requirements would be the same as the Proposed Project; ² = Mitigation ratios to HMP Group A habitats are subject to modification by state agencies where regulatory authority exists. Mitigation ratios for HMP Group B-F habitats are based on Table 11 of the City's HMP (page D-113). If onsite mitigation is not feasible for Habitat Group D and greater than <67% of habitat is not conserved, mitigation shall occur via a per acre in lieu mitigation fee. In addition, offsite mitigation for Habitat Group F which is not conserved or mitigation onsite, shall pay a per acre in lieu mitigation fee. In lieu fees are based on the City's Development Processing Fee Schedule and will be assessed at the time of project impact.

Source: Merkel & Associates, Inc., 2010.

Table 5.6-8
Mitigation Required for Temporary Impacts

Habitat Group/ Vegetation Type	Project Elements – Total Temporary Impact (acreage)		Mitigation Ratio/Fee ¹	Mitigation Acreage		Mitigation Location – Proposed Project ²		
	Second Phase			Proposed Project	Storm Drain Alternative 1	Riparian Biological Open Space (total acreage 0.67)	Upland Biological Open Space (Total of 1.21-acre area)	Agriculture , Eucalyptus Woodland, and Disturbed Habitat – In Lieu Mitigation Fee
	Proposed Project	Storm Drain Alternative 1						
D. Diegan Coastal Sage Scrub	<0.1	<0.1	1:1	0.05	0.05	NA	0.05	NA
Total:	<0.1	<0.1		0.05	0.05	NA	0.05	NA

Notes: ¹ Mitigation ratios to HMP Group A habitats are subject to modification by state agencies where regulatory authority exists. Mitigation ratios for HMP Group B-F habitats are based on Table 11 of the City's HMP (page D-113). If on-site mitigation is not feasible for Habitat Group D and greater than <67% of habitat is not conserved, mitigation shall occur via a per acre in lieu mitigation fee. In addition, off-site mitigation for Habitat Group F which is not conserved or mitigation on-site, shall pay a per acre in lieu mitigation fee. In lieu fees are based on the City's Development Processing Fee Schedule, effective September 1, 2008 and updated July 1, 2009.

² In the event, the Storm Drain Alternative 1 alignment is selected for implementation, mitigation would occur at the same proposed locations as the Proposed Project.

Source: Merkel & Associates, 2010.

Bromus, and *Erodium* species. These lands are located immediately adjacent to the Rancho Carlsbad housing community and are currently disked/mowed for fallow agricultural purposes on a yearly basis. Overall, the dense non-native grasses and forbs choke out the lands preventing growth of most native species. The annual mowing and/or disking also prevents the establishment of native perennial species due to loosening of the soil and removal of vegetation.

Temporary impacts would also be incurred during the Initial Phase of the Dos Colinas project. Specifically, the temporary impacts would consist of a 10-foot buffer around limited portions of the RV storage and garden area parcel; this buffer is required for the initial construction of the development project and necessary to allow construction equipment to turn around at the toe of slope. Once completed, all temporary disturbance areas would be reseeded with comparable species as presently existing for erosion purposes. Habitats temporarily impacted include extensive agriculture, disturbed habitat, and urban/developed lands.

Phase I Vegetation Impacts

- **Non-sensitive Upland Habitats (Extensive Agriculture and Disturbed Habitat)**

Approximately 7.0 acres of extensive agriculture and 0.6 acre of disturbed habitat (HMP Habitat Group F) would be permanently impacted and are considered significant per the City's HMP. Table 5.6-7 identifies the HMP mitigation ratio/requirement and required mitigation for permanent impacts for each vegetation community. Implementation of Mitigation Measures B-1 and B-2 will reduce this to a level of less than significant. Although a permanent impact to one acre of urban/developed land would incur with implementation of the proposed project, these lands are not considered significant and do not require mitigation.

0.1 acre of extensive agriculture and 0.1 acre of disturbed habitat would be temporarily impacted by the development of Phase I. These temporary disturbance areas would be reseeded and restored to their original condition upon completion of the proposed project. These temporary impacts are not expected to be significant per the City's HMP, as the function of the lands would not change upon completion of the project. However, Mitigation Measure B-3 is required to ensure that temporarily impacted areas are reseeded upon completion of Phase I improvements.

Phase II-Planned Senior Community & Affordable Housing Development

Permanent impacts to on-site upland habitats would result from the complete development of the planned senior community and affordable housing apartments as well as all slopes needed to support the development. This includes a 60-foot fuel modification zone along the southern portion of the planned senior community as well as a 60-foot fuel modification zone along the northern portion of the affordable housing development site. The fuel modification zone within the affordable housing development has been incorporated within the parking lot associated with the proposed development. In addition, as a result of floodplain creation on the equestrian site pad, impacts to existing urban/developed lands would be incurred on-site just north of Agua Hedionda Creek. Permanent off-site impacts would be incurred as a result of necessary paved road extensions from Rancho Carlsbad to the planned senior community as well as road extensions from the affordable housing development site to Sunny Creek Road. Habitats permanently impacted include disturbed valley needlegrass grassland, Diegan coastal sage scrub, extensive agriculture, eucalyptus woodland, disturbed habitat, and urban/developed lands.

Temporary impacts would also be incurred on-site along segments of the western and southern boundaries of the planned senior community. Specifically, the temporary impacts would consist of a 10-foot buffer; this buffer is required for the initial construction of the development project and necessary to allow construction equipment to turn around at the toe of slope during formation of the development pads. Once completed, all temporary disturbance areas would be reseeded with comparable species as presently existing for erosion purposes. Habitats temporarily impacted include Diegan coastal sage scrub, extensive agriculture, eucalyptus woodland, disturbed habitat, and urban/developed lands.

- **Storm Drain-Proposed Project**

A subsurface storm drain is proposed off-site within the Rancho Carlsbad Golf Course. This storm drain is located in APN #209-060-58 (see Figure 3-3 Assessor Parcel Map). All impacts associated with the construction would be temporary excluding the manholes and the connection to Agua Hedionda Creek, which would require cutting into the existing banks of the creek for placement of a riprap energy dissipater. The dissipater would reduce the velocity of the runoff entering into the creek and also prevent erosion at the connection. Construction of the channel would occur via open trench construction methods; all temporarily impacted areas would be reseeded with comparable floral species upon completion of the project. Permanent impacts are limited to urban/developed lands and waters regulated as streambed and bank by CDFG. These impacts cannot be avoided as connection with Agua Hedionda Creek is required for installation of the storm drain. Impacts to ACOE jurisdictional waters will be avoided via placement of the riprap energy dissipater outside the OHWM of the creek. Habitats temporarily impacted as a result of this project element are limited to urban/developed lands.

- **Storm Drain-Alternative 1**

An alternative storm drain alignment has been proposed to avoid impacts to the Rancho Carlsbad Golf Course and waters of Agua Hedionda Creek. This alternative would enter Agua Hedionda Creek on an existing riprap apron above the OHWM. Specifically, the alternative alignment would be located within Don Lorenzo Drive, an existing paved road in the Rancho Carlsbad Estates community, and connect to Agua Hedionda Creek on the north side (downstream) of an existing bridge located on Rancho Carlsbad Drive. The creek bed and banks were previously armored with riprap around an existing bridge; thus, the alternative alignment would tie into this existing riprap eliminating the requirement for a separate energy dissipater. All impacts associated with Storm Drain Alternative 1 would be temporary, excluding the manholes located within the existing paved road and at the connection to Agua Hedionda Creek, which would require cutting into the existing banks for placement of a riprap energy dissipater. Permanent impacts are limited to urban/developed lands and the non-vegetated armored channel slopes under the regulatory jurisdiction of the CDFG. This project alternative would avoid impacts to ACOE jurisdictional waters as the riprap energy dissipater would be placed outside the OHWM of the creek. Habitats temporarily impacted as a result of this project element are extensive agriculture, disturbed habitat, and urban/developed lands. All temporary impacts would be returned to pre-existing contours and revegetated with appropriate native species for erosion control purposes after completion of the project.

- **Sewer Access Road**

Permanent impacts to upland vegetation communities would result from realignment of the paved road north of the planned senior community development site (APN #168-050-35). The construction of College Boulevard – Reach "A" requires that the existing north/south portion of the paved road be realigned to the west (and identified as Don Carlos Drive) and connect to the existing paved road. As part of the realignment, additional parking spaces would be constructed for Rancho Carlsbad residents and staff near the recreation facilities. In addition, as a result of the planned senior community, a public sewer (20-foot easement) would also be installed within the realigned road. The proposed sewer line would tie into an existing line located on the north side of Little Encinas Creek. The entire line would be installed via open trench construction.

Phase II Vegetation Impacts

No impacts to wetlands (HMP Habitat Group A) would be incurred as a result of the proposed project.

- **Upland Habitat-Disturbed Valley Needlegrass**

Less than 0.1 acre of disturbed valley needlegrass would be permanently impacted due to the development of Phase II. All permanent impacts to disturbed valley needlegrass grassland (HMP Habitat Group B) are significant under CEQA and the City's HMP. However, with implementation of Mitigation Measures B-4 and B-5, the permanent impact to disturbed valley needlegrass grassland would be reduced to a level of less than significant. Mitigation for permanent impacts to disturbed valley needlegrass grassland as a result of Phase II will be mitigated within the planned senior community through preservation and restoration of Diegan coastal sage scrub and grassland. Specifically, a biological conservation easement would be placed over the proposed open space parcel located on the southern portion of the CCRC site.

- **Upland Habitat-Diegan Coastal Sage Scrub**

0.6 acre of Diegan coastal sage scrub would be permanently impacted due to the development of Phase II. All permanent and temporary impacts to Diegan coastal sage scrub (HMP Habitat Group D) are significant pursuant to CEQA and the City's HMP. Implementation of Mitigation Measures B-4 and B-5 will reduce this to a level of less than significant. Mitigation for permanent impacts to Diegan coastal sage scrub as a result of Phase II (planned senior community) will be mitigated within the planned senior community through preservation of Diegan coastal sage scrub. A biological conservation easement would be placed over the proposed open space parcel located on the southern portion of the CCRC site. In addition to habitat-based mitigation (MM B-4), the less than 0.1 acre temporarily impacted would be returned to pre-existing contours and revegetated with appropriate native species for erosion control purposes after completion of the project, as required by Mitigation Measure B-6.

- **Non-sensitive Upland Habitats (Eucalyptus Woodland, Extensive Agriculture, and Disturbed Habitat)**

Approximately 0.5 acre of eucalyptus woodland, 27.3 acres of extensive agriculture, and 1.2 acres of disturbed habitat would be permanently impacted due to the development of Phase II. All permanent impacts to eucalyptus woodland, extensive agriculture, and disturbed habitat (HMP Habitat Group F) are significant per the City's HMP. Implementation of Mitigation Measure B-7 will reduce this to a level of less than significant. The temporary disturbance areas (0.1 acre of eucalyptus woodland, 0.2 acre of extensive agriculture, and 0.1 acre of disturbed habitat) would be reseeded and restored to their original condition upon completion of the proposed project. These temporary impacts are not expected to be significant per the City's HMP as the function of the lands would not change upon completion of the project. However, Mitigation Measure B-6 is required to ensure that temporarily impacted areas are reseeded upon completion of Phase II improvements.

Impacts (i.e., permanent or temporary) to urban/developed lands are not considered significant per the City's HMP and therefore do not require mitigation. All temporarily impacted areas would be returned to pre-existing contours and revegetated with appropriate native species for erosion control purposes after completion of the project.

With respect to HMP mitigation requirements, the impact to 0.1 acre of disturbed valley needlegrass would require a mitigation ratio of 3:1; therefore, 0.12 acre will be required to be mitigated as part of an upland biological open space easement. The impact to 0.6 acre of Diegan coastal sage scrub would require a mitigation ratio of 1:1; therefore, 0.6 acre will be required to be mitigated as part of an upland biological open space easement. An additional 0.05 acres of Diegan coastal sage scrub would be mitigated as part of the upland biological open space for temporary impacts. Figure 5.6-4 depicts the proposed location of the biological open space. This area would be required to be designated with a biological open space easement, which requires long term monitoring and maintenance. Long term management duties of the open space would include, but not limited to, perpetual repairs to ensure site protection (i.e., fencing, signage), trash and debris removal, weed control, and erosion control. In addition to habitat-based mitigation, areas temporarily impacted would be returned to pre-existing contours and revegetated with appropriate native species for erosion control purposes after completion of the project.

B. Jurisdictional Wetlands and Waterways Impacts

The project has been designed to fully avoid impacts to wetlands and federally regulated waterways. However, the proposed project cannot avoid direct permanent impacts to waters regulated as streambed and bank by CDFG (see Table 5.6-9). No temporary impacts would be incurred. The sections below describe in detail how each element of the proposed project would result in impacts and their significance in accordance with CEQA and the City's HMP.

Phase I-RV Storage and Garden Area

No wetlands or jurisdictional waterways would be impacted during Phase I of the Dos Colinas project.

Phase II-Planned Senior Community & Affordable Housing Development

No wetlands or jurisdictional waterways would be impacted from the planned senior community and affordable housing development.

- **Storm Drain-Proposed Project**

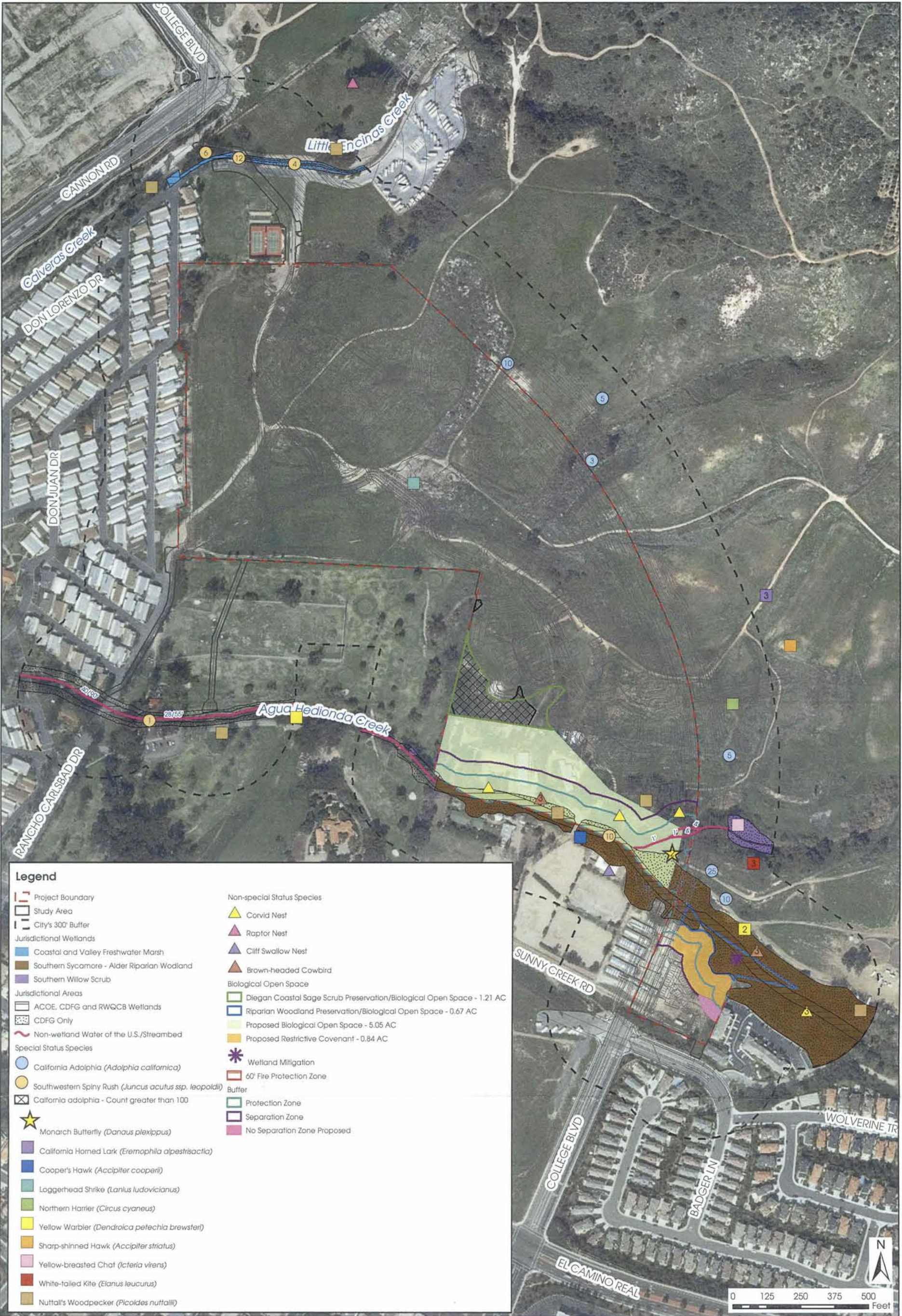
The project has been designed to fully avoid impacts to wetlands and federally regulated waterways. However, 0.01 acre of non-vegetated earthen stream bank subject to regulation by the CDFG would be permanently impacted from the extension of the off-site storm drain to Agua Hedionda Creek. This hydrologic drainage tie-in cannot be avoided since water conveyance to the creek system is the only feasible means of managing stormwater on the site. The design of the stormwater discharge system consists of connecting the drain with a headwall and riprap energy dissipater outside the OHWM of the creek. This would result in no impacts to ACOE jurisdictional waters. However, a minor impact to the CDFG streambank would occur. Impacts to regulated waters (0.01 acre) associated with the construction of the subsurface drain channel are considered significant. Implementation of Mitigation Measure B-8 would reduce this impact to a level less than significant. Table 5.6-9 depicts permanent impacts to jurisdictional wetland and waterways.

TABLE 5.6-9

[illegible]

3 = No impacts will be incurred within the onsite parcels.

Source: Merkel & Associates, Inc., 2010.



SOURCE: SanGIS, 2010; ESRI, 2010; Merkel & Associates, Inc., 2010; BRG Consulting, Inc., 2010

8/31/10

Dos Colinas EIR

Proposed Biological Open Space

FIGURE
5.6-4

- **Storm Drain-Alternative 1**

No wetlands would be impacted as a result of the alternative storm drain alignment. Although there is existing rip rap, Agua Hedionda Creek must still be cut because a new headwall must be placed through the rip rap to allow conveyance of flow into creek. Permanent impacts to the armored stream bank would occur by replacing a portion of the riprap with a concrete headwall. Impacts would occur within CDFG jurisdiction under section 1602 of the Fish and Game Code. No impacts to waters of the U.S. would occur as the riprap energy dissipater was specifically designed to avoid the OHWM of the Creek. Due to the existing riprap within the Creek bed and banks, a less than significant impact is anticipated.

- **Sewer Access Road**

Realignment of the existing road located within a recreation parcel for Rancho Carlsbad Estates (identified as Don Carlos Drive) would not result in impacts to wetlands or jurisdictional waters. In addition, no impacts to wetlands or jurisdictional waters would occur as a result of the construction of a 20-foot sewer easement across Little Encinas Creek because the entire sewer line will be within the footprint of College Boulevard Reach "A." The development of College Boulevard Reach "A" is, however, required to adhere to the mitigation measures as established pursuant to EIR 98-02, SCH No. 99111082, and the associated wildlife agency permits (Clean Water Act Section 404 Permit (No. 200100215-RLK) and Section 401 Certification (No. R9-2002-0014) and California Department of Fish and Game Section 1600 Streambed Alteration Agreement (No. R5-2001-0007)).

All proposed residential development associated with the planned senior community have been set back at least 100 feet from Little Encinas Creek. However, the proposed project has not incorporated a riparian buffer between Little Encinas Creek and project impacts. A riparian buffer is not proposed from the edge of Little Encinas Creek as Don Carlos Drive will be realigned and will connect to an existing paved road associated with Rancho Carlsbad Estates, which is currently within 10 feet of the creek. The current intersection of the existing roads is also within 10 feet of the creek. As a result of the proximity of existing roadway infrastructure to the creek, provision of a wider buffer in this area is not feasible. The lands being impacted by the realignment of Don Carlos Drive consist of urban/developed lands used by Rancho Carlsbad Estates for recreational facilities. No impacts to jurisdictional resources would be incurred. The realignment is not significantly changing the existing conditions of the site. Thus, no riparian buffer is proposed between Little Encinas Creek and the planned senior community site. As, the realignment of the road would not result in additional impacts to jurisdictional resources, a less than significant impact is anticipated.

C. Sensitive Plant Species

The two sensitive plant species identified within the project site are California adolphia and southwestern spiny rush. California adolphia was identified within the high quality Diegan coastal sage scrub within the southwestern portion of the CCRC site. Southwestern spiny rush was identified within the coastal and valley freshwater marsh of Little Encinas Creek, located immediately north of the CCRC site. No permanent impacts to southwestern spiny rush would be incurred as a result of the proposed project. Permanent impacts to California adolphia would occur as a result of construction of the planned senior community (inclusive of a minor portion of the 60-foot fuel modification zone). A total of 25 California adolphia plants

would be removed as a result of the 60-foot fuel modification zone. Due to the large population located within the southwestern corner of the planned senior development, the study area supports far greater than 150 individuals; however, due to the prolific nature of these species, an exact/more accurate count could not be provided. The on-site community is not expected to represent a regionally significant population and the loss of 25 plants is not expected to "threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species." The remaining on-site portion of the California adolphia community supporting greater than 100 individuals would be preserved as biological open space as part of the Diegan coastal sage scrub conservation easement. Therefore, a less than significant impact is identified.

Due to the project site being predominately dominated by extensive agriculture, no additional rare plants were detected on-site during the 2009 focused rare plant surveys. The dense non-native grasses and forbs prevent the growth of most native species. Furthermore, due to the historic and ongoing agriculture use, the soils are not likely to support surface water for a sufficient period of time to form suitable conditions for many perennial species. Therefore, the project site has a low potential to support additional rare plants, and, thus a less than significant impact is identified.

D. Sensitive Animal Species

Monarch Butterfly

Two monarch butterflies were observed flying throughout the riparian woodland and eucalyptus woodland canopies along Agua Hedionda Creek. No roosts are known to occur within the immediate vicinity and none were observed during the biological surveys; thus the direct impact to these species would not be significant per CEQA §15065 because the project would not be expected to "substantially reduce the habitat, number, or range of the species to a level affecting the species population stability in the region."

Burrowing Owl

No burrowing owls or evidence of burrowing owls were detected on-site or adjacent to the study area during the 2009 nesting season survey. No nesting or wintering burrowing owls have been documented on the project site or within the vicinity of the site. While it is possible for migrating (non-nesting) burrowing owls to use the site for foraging purposes, no evidence (i.e., scat, pellets, or feathers) has been detected. However, if present during construction of the proposed project, a potential significant impact to nesting burrowing owls could occur. Implementation of Mitigation Measures B-5 and B-9 would reduce this to a level less than significant.

Coastal California gnatcatcher

No impact is anticipated to occur as this species was not detected on-site during the 2006 and 2009 surveys. In addition, no impact to the designated critical habitat for the coastal California gnatcatcher would occur as a result of the proposed project and no impact would occur to HMP Core Area #3, as the boundary lies approximately 75 feet northeast of the limits of the impact. Therefore, no significant impact is anticipated.

Raptors

No raptor nests are located within the footprint of the proposed project. However, adjacent eucalyptus woodland and riparian habitats near Little Encinas Creek and Agua Hedionda Creek support raptor nests. Furthermore, the riparian and oak woodland habitat along the unnamed tributary to Agua Hedionda Creek offer potentially suitable habitat for nesting of raptors. Therefore, a significant impact is anticipated to occur to raptor nests with implementation of the proposed project. Implementation of Mitigation Measures B-5 and B-9 would reduce this to a level of less significance.

Least Bell's Vireo and Southwestern Willow Flycatcher

One pair of least Bell's vireos and at least two fledglings (i.e., Vireo #1) were detected to occupy the riparian habitat within Agua Hedionda Creek, located immediately north of the affordable housing site. The proposed project has been designed to avoid direct impacts to this species and would preserve the on-site portion of the Creek as open space via a biological conservation easement, and thus, avoid direct impacts. In addition, a modified buffer from the edge of the riparian canopy as required by the City's HMP has been incorporated into the design of the project. The buffer will be designated as open space via establishment of a restrictive covenant limiting the allowable uses to conservation of habitat, compatible enhancement and maintenance activities, and minimal maintenance activities for the purposes of maintaining the hydromodification/overflow basin and associated BMPs. The proposed basin in conjunction with the designated open space areas along Agua Hedionda Creek would contribute to the movement of floral and faunal species along the Agua Hedionda Creek corridor and would provide a large node of expanded corridor width just upstream of a narrowing of the riparian corridor as it passes through the golf course and Rancho Carlsbad project. This is expected to directly benefit least Bell's vireo, for which a cowbird trapping program is planned in conjunction with the College Boulevard – Reach "A" project. Although the project has been designed to avoid direct impacts to least Bell's vireo, implementation of Mitigation Measures B-5 and B-10 will ensure avoidance of impacts. In addition, Mitigation Measure B-11 will ensure that construction noise levels at the riparian canopy edge will ensure that noise levels are maintained at an acceptable level to avoid direct noise impacts to least Bell's vireo.

No impacts would occur to southwestern willow flycatchers as none were detected on the project site during the 2009 focused surveys.

Lower Sensitivity Species

Impacts to non-listed special status species including horned lark, yellow warbler, loggerhead shrike, Nuttall's woodpecker, and yellow-breasted chat are anticipated in conjunction with the loss of eucalyptus woodland, riparian woodland, and extensive agriculture as a result of the planned senior and affordable housing developments. A total of 12 trees (A-L) would be removed on-site as a result of the project. Tree "A" is a 40-foot eucalyptus tree which is located on a sloped area, east of the proposed RV storage area. Tree "B" is a 40-foot eucalyptus tree located within the building pad area of Independent Living Building 2 of the CCRC site. Trees "C", "D", and "E" are sambucus-elderberry trees located to the west of the proposed assisted living building. Trees "F", "G", "H", "I", "J", "K", and "L" are all eucalyptus trees located south of the proposed southern cottage homes. Impacts would only be considered significant if project impacts restricted the range of the species to a level affecting the species' population stability in the

region. However, project impacts as a result of on-site tree removal to the eucalyptus woodland and riparian areas are limited in nature and are not anticipated to substantively change the presence, distribution, or population stability of these species. The on-site extensive agriculture lands are relatively disturbed and contain non-native annual species. The proposed project is not anticipated to cause a wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or animal community; therefore, a less than significant impact is identified.

Impacts to nesting migratory birds could occur through direct loss of habitat due to the removal of twelve trees on-site (nine eucalyptus and three sambucus-elderberry). This is considered a potential significant impact. However, with implementation of Mitigation Measures B-5 and B-9, this would be reduced to a level less than significant.

5.6.4.2 *Indirect Impacts*

Indirect impact to wildlife is anticipated to occur with project construction, most notably from the effects of disturbance/clearing of native vegetation that could result in conditions suitable for non-native, weedy species intrusion and other detrimental edge effect; such edge effects include increased predation pressure, increased brood parasitism, increased competition for nesting cavities from non-native species, and increased flora competition from weedy species. Indirect impacts may include artificial lighting within wildlife habitat, and increased erosion or sedimentation. In order to prevent these negative indirect impacts, adjacency standards per Section F3 of the HMP shall be implemented into the project. These standards include: 1) fire management; 2) erosion control; 3) landscaping restrictions; 4) fencing, signs and lighting; and, 5) predator and exotic species control. These indirect impacts to wildlife are considered significant; however, implementation of Mitigation Measures B-12 and B-13 will reduce this to a level of less than significance.

Construction of the floodplain basin on the affordable housing site/ south side of Agua Hedionda Creek could potentially increase the number of invasive non-native flora species within the local watershed. An increase in invasive species would have the potential to choke out the high quality riparian habitat located along Agua Hedionda Creek and potentially reduce the use of the site by special status species including the least Bell's vireo and yellow warbler. However, the hydromodification/overflow basin is proposed to compensate for loss of floodplain capacity. The proposed basin would assist in decreasing peak flow volume and velocity within the creek. In addition, the basin would allow for the creation of highly beneficial multi-tiered wetland habitat serving as a buffer between the existing Agua Hedionda Creek and proposed development. Most notably, the buffer would be managed for natural biological values, which is a requirement by the City's HMP due to the presence of least Bell's vireo. The proposed basin in conjunction with the designated open space areas along Agua Hedionda Creek would contribute to the movement of floral and faunal species along the Agua Hedionda Creek corridor and would provide a large node of expanded corridor width just upstream of a narrowing of the riparian corridor as it passes through the golf course and Rancho Carlsbad project. This is expected to directly benefit least Bell's vireo. Therefore, a less than significant impact is identified for this issue.

5.6.4.3 *Wildlife Movement and Nursery Site Corridors*

The Dos Colinas project is not located within Linkage Area C or Core Area 3 of the HMP. A portion of Core Area 5 occurs along Agua Hedionda Creek to the east of the proposed affordable housing site, but the distance between Core Areas 3 and 5 is greater than 1,000 feet. Although not identified as a formal corridor, the HMP references the wildlife corridor status of Agua Hedionda Creek. To support the use of Agua Hedionda Creek as a corridor, the project proposes the following:

- A Biological Conservation Easement will be placed over a proposed open space parcel at the affordable housing site (APN #209-060-68). The proposed open space parcel supports riparian habitat within Agua Hedionda Creek. This open space would result in conservation of the creek corridor being extended westward from the terminus of the defined Core Area 5; this area is a proposed hardline conservation area;
- A conservation mechanism (i.e., restrictive covenant) will be placed over the modified buffer from Agua Hedionda Creek within the affordable housing development site (APN #209-060-68);
- A Biological Conservation Easement will be placed over a proposed open space parcel at the CCRC site (APN #209-060-70). The parcel supports existing Diegan coastal sage scrub within the southern portion of the planned senior community development site. This area is a proposed hardline conservation area; and,
- A large portion of the senior community development site (APN #209-060-71) will be designated as open space (i.e., open space easement, General Plan Land Use and Zoning designation of Open Space). No conservation mechanism is proposed. All existing equestrian structures would be permanently removed from the 100-year floodplain concurrently with project impacts. In addition, the equestrian site pad would be lowered slightly to expand the floodplain.

Overall, the proposed project would support the use of Agua Hedionda Creek as a corridor through avoidance of project impacts to the creek, use of buffers between development and the creek, designation of open space, and use of conservation mechanisms over select areas. In addition, with the placement of biological conservation easements along Agua Hedionda Creek (i.e., affordable site), existing standards areas would be converted to hardline conservation areas. Therefore, a less than significant impact to wildlife corridors is identified.

It should be noted that several structures, including a vacant single-family home and accessory structures are currently on-site on the southern parcel of the CCRC site (APN #209-06-071). These structures are located in the floodplain. With implementation of the proposed project, the southern portion of the CCRC site would be designated as open space. Pursuant to the City of Carlsbad Zoning ordinance, single-family residences are not permitted in open space zones. Therefore, a significant impact would occur. Implementation of Mitigation Measure B-14 would require the removal of these structures.

A. Wetlands

The project has been designed to fully avoid impacts to wetlands and federally regulated waterways. However, permanent impacts to the streambank from the construction of the storm drain cannot be

avoided, as connection of the storm drain with Agua Hedionda Creek is required. The project has been designed to avoid impacts to ACOE jurisdictional waters via placement of the proposed riprap energy dissipater outside the Ordinary High Water Mark (OHWM).

The portion of Agua Hedionda Creek located within the project site that has been identified to support least Bell's vireo would be preserved as open space through a biological conservation easement which requires long term monitoring and maintenance. This would maintain wildlife movement. In addition, to facilitate local management of the cowbirds, the Applicant would allow access to the open space for implementation of a cowbird trapping program (to be performed by the Applicant as part of the construction of College Boulevard Reach "A").

B. Wetland Buffers

All proposed development associated with the planned senior community has been set back at least 100 feet from Agua Hedionda Creek. In addition, all proposed development associated with the planned senior community has been set back at least 100 feet from Little Encinas Creek. However, the proposed project has not incorporated a riparian buffer between Little Encinas Creek and project impacts. A riparian buffer is not proposed from the edge of Little Encinas Creek as Don Carlos Drive will be realigned and will connect to an existing paved road associated with Rancho Carlsbad Estates, which is currently within 10 feet of the creek. The current intersection of the existing roads is also within 10 feet of the creek. As a result of the proximity of existing roadway infrastructure to the creek, provision of a wider buffer in this area is not feasible. The lands being impacted by the realignment of Don Carlos Drive consist of urban/developed lands used by Rancho Carlsbad Estates for recreational facilities. No impacts to jurisdictional resources would be incurred. The road realignment does not significantly change the existing conditions of the site. Thus, no riparian buffer is proposed between Little Encinas Creek and the planned senior community site.

Although not a wetland, the project has set back all development from the non-wetland waters that occur under the eucalyptus woodland canopy at the southern portion of the planned senior community site (i.e. CCRC site). Specifically, no impacts would be incurred within the Protection Zone that extends a minimum of 50 feet measured from the outside of the top of the bank. A portion of the development slope would be located within the Separation Zone that extends a minimum of 50 feet from the Protection Zone. No fuel modification is proposed within the Protection or Separation Zones. In addition, no lighting is proposed or required for safety purposes within the two zones. No maintenance and monitoring requirements are necessary for the development slope. However, it is recommended that the planting palette on the development slopes be coordinated between biologists and the project landscape architect to ensure that native species (Protection Zone) and non-invasive species (Separation Zone) are utilized. Recommended planting palette and maintenance restrictions have been provided, and are required by Mitigation Measure B-13.

All residential units associated with the affordable housing site have been set back a minimum 100 feet from the riparian canopy associated with Agua Hedionda Creek. A 50-foot Protection Zone is provided between adjacent riparian habitat and the development, and a 50-foot Separation Zone is provided between the Protection Zone and the development for approximately 77% of the buffer length. At the

easterly end of the buffer, an area of approximately 0.1 acre of the Separation Zone is omitted to accommodate parking for the affordable housing site. At the westerly end of the buffer additional width has been added such that the average buffer width on the affordable housing site is approximately 97 feet. Where the buffer has been omitted at the east end of the parcel, it would otherwise abut an existing multi-level affordable residential structure on an off-site parcel. Inclusion of a Separation Zone here would not provide additional buffering capacity to the riparian corridor because the intervening area to the riparian zone on the adjacent parcel is comprised of a paved parking lot. In lieu of the easterly buffer, the southwestern portion of the buffer has been expanded (per project site plans) by approximately 0.06 acre. Here, the expanded area abuts the proposed College Boulevard – Reach "A" and provides for continuous and significant habitat with the riparian habitat of the hydromodification/overflow basin. While the buffer does not maintain a consistent 100 foot width, the distribution of buffer along the interface with the Agua Hedionda Creek wetlands is a biologically preferred condition in that it does not place the Separation Zone Buffer outside of more significantly impacted development encroachments on the adjacent parcel and it places expanded buffer area where the broader buffer values can contribute directly to the Creek wetlands. The Dos Colinas project is not explicitly consistent with the HMP 100-foot width standard, but has achieved consistency through this alternative buffer design.

C. 100-Year Floodplain

Phase I-RV Storage and Garden Area

The RV storage and garden area will require fills in the 100-year floodplain. Habitats located within the floodplain that will be permanently impacted are limited to extensive agriculture, disturbed habitat, and urban/developed lands. These lands are located immediately adjacent to Rancho Carlsbad Estates and are currently disked/mowed for fallow agricultural purposes on a yearly basis. Overall, the dense non-native grasses and forbs choke out the lands preventing growth of most native species. The annual mowing and/or disking also prevents the establishment of native perennial species due to loosening of the soil and removal of vegetation. These impacted lands currently have open access to the undeveloped lands to the north and east. However, the site's long-standing agricultural use and urban development to the west has eliminated much of the vegetative cover that is expected to support long-range wildlife movements. The site still supports daily movements of coyotes and meso-predators, but is not expected to provide for long-range dispersal of most mammalian species. Rather, the capacity for the site to function as a corridor is effectively limited to the Agua Hedionda Creek corridor. This is due to the surrounding undeveloped riparian lands, particularly upstream to the east and downstream at Agua Hedionda Lagoon.

The new location of the RV storage and garden area is designed to replace existing off-site facilities located northeast of College Boulevard-Reach "A"; this is a required mitigation measure of the Final EIR for the College Boulevard Reach "A" (EIR No. 98-02, SCH No. 99111082). In order to facilitate required mitigation for the College Boulevard Reach "A" EIR, the Dos Colinas project cannot avoid impacts to the floodplain. As a result of Phase I of the proposed project, extensive agriculture and disturbed habitat will be permanently impacted. This is considered a significant impact. Implementation of Mitigation Measures B-1 and B-2 will reduce this impact to a level less than significant.

Removal of the RV storage and garden area from its current location would allow for the creation of the Basin BJ in accordance with the Final EIR for the College Boulevard Reach "A." The original intent of the Basin BJ was to serve as compensatory wetland mitigation for impacts resulting from the Final EIR for the College Boulevard Reach "A." However, a more desirable mitigation site along Agua Hedionda Creek, within the Lubliner Parcel (APN #209-060-65) will be utilized. The College Boulevard Reach "A" Applicant is still proposing to construct the basin as required by the City for flood control purposes. The Basin BJ would be constructed via pulling back the existing creek banks, avoiding impacts to the OHWM, and ultimately lowering the adjacent area to allow for overbank flooding and peak flow storage. A concrete-lined drainage is currently located within the northeastern portion of the proposed basin. The concrete-lined drainage conveys surface runoff from a natural upland drainage system to Little Encinas Creek. Construction of the Basin BJ would impact this concrete-lined drainage; however, upon completion of the basin, conveyance of surface flow would continue and contribute to the nature of the Basin BJ as a source of flood control. Currently, Little Encinas Creek (at this location) offers little biological value due to the lack of riparian cover or significant herbaceous cover. Biologically, the low growing sporadic vegetation, high degree of erosion, and extensive amount of riprap or other concrete rubble within the creek prevents the system from capturing high sediment retention and possible groundwater recharge.

While southern coast live oak riparian forest occurs upstream from the existing RV storage and garden area site, it likely diminishes due to the historic urban and agricultural uses, which have confined the creek bed and bank boundaries. Little Encinas Creek has the potential to support a mature healthy riparian canopy with expansion of the creek bed and significant restoration associated with the Basin BJ. Construction of the Basin BJ would impact approximately one-acre of habitat within Core Area 3. The project lands within Core Area 3 are very small and primarily comprised of urban/developed lands consisting of the existing garden managed by the residents of the Rancho Carlsbad Estates. Thus, these lands are highly disturbed in nature and not biologically diverse. As stated above, construction of the Basin BJ would create additional 100-year floodplain within Little Encinas Creek and management of the basin would extend the existing riparian system thereby supporting Little Encinas Creek as a potential corridor toward Agua Hedionda Lagoon as well as extend existing hardline conservation areas westward. Overall, while the creation of the Basin BJ would be implemented under the Final EIR for the College Boulevard Reach "A", the relocation of the RV storage and garden area within the subdivision of Dos Colinas would facilitate implementation the construction of College Boulevard – Reach A, which is a City approved City Circulation Element Road as well as creation of the Basin BJ.

Phase II-Planned Senior Community and Affordable Housing Development

The northwest portion of the planned senior community is located within the 100-year floodplain. Specifically, the project would raise portions of the proposed access road leading into the planned senior community from Rancho Carlsbad Estates out of the floodplain. Previous conditions of approval placed on the RCOA property [RMHP 96-01(D)], included the requirement for a secondary access to College Boulevard; thus the access road is a requirement and cannot be eliminated. In addition, slopes associated with recreational and non-residential usage that currently support agricultural and eucalyptus lands would be raised out of the floodplain. These impacts cannot be avoided for development of the planned senior

community. Cumulatively, the impacted lands consist primarily of extensive agricultural and secondarily of eucalyptus woodland and disturbed habitat. The extensive agriculture is located adjacent to the Rancho Carlsbad Estates community. The eucalyptus woodland is located adjacent to Agua Hedionda Creek, on the north side of the creek. The impact to extensive agriculture and eucalyptus woodland is considered a significant impact. Implementation of Mitigation Measures B-5 and B-7 will reduce this impact to a level less than significant.

Due to the conditions of approval placed on the RCOA property and necessary slope construction to support the planned senior community, fill or development within the floodplain on the planned CCRC site cannot be avoided. In addition, impacts to the floodplain are necessary to meet the project goals and objective of developing the affordable housing site; thus, fill or development with the floodplain cannot be avoided on the affordable housing site. The loss of floodplain due to development of the planned senior community and affordable housing site is considered a significant impact. Implementation of Mitigation Measures B-4, B-5, B-6, B-7, B-12, and B-13 will reduce this impact to a level less than significant.

5.6.4.4 HMP Consistency

The Biological Technical Report, (EIR Appendix E) provides a detailed analysis of the project's consistency with the HMP (see Appendix 8-HMP Consistency Findings for the Dos Colinas Project). The following provides a summary of this analysis. The Dos Colinas Project is located within Local Facilities Management Zone (Zone) 15. The majority of the site lies within HMP Proposed Standards Areas. A small portion of the site is located outside the proposed development area within Focused Planning Area Core 5. The proposed project would impact Zone 15 lands as well as lands within the Proposed Standards Areas. Applicable standards against which consistency must be evaluated are discussed within the below sections.

- A.** Per the Planning Standards of Zone 15 (City HMP pg. D-79) the following planning standards are required:
- 1) Maintain and enhance a habitat linkage across Linkage Area C and adjoining portions of Core Areas 3 and 5 that averages between 500 and 1,000 feet wide, with a minimum width of no less than 500 feet. Emphasis should be on improving gnatcatcher habitat within the linkage.

This standard is not applicable to the Dos Colinas Project as the project site is not located within Linkage Area C or the adjoining portions of Core Areas 3 and 5.

A portion of Core Area 5 occurs along Agua Hedionda Creek to the east of the proposed affordable development site but the distance between Core Area 3 and 5 is greater than 1,000 feet. No coastal California gnatcatchers (*Poliophtila californica californica*) were detected on-site or within the 300-foot mapping buffer during the protocol surveys.

- 2) Areas of upland habitat outside the designated Linkage Area C may be taken in exchange for restoration and enhancement inside the linkage, as long as the result is no net loss of coastal sage scrub and the associated gnatcatcher population within the southern portion of the zone.

The Dos Colinas Project site is not located within Linkage Area C. Of the 2.7 acres of Diegan coastal sage scrub on-site, 0.65 acres of Diegan coastal sage scrub will be permanently and temporarily impacted as a result of the Dos Colinas Project. Mitigation will occur at a 1:1 ratio within the proposed 1.21-acre upland Biological Conservation Easement. As a result, 0.65 acres of restoration would occur within the proposed open space parcel/upland biological conservation easement via removal of non-native species and replacement with native grasses and sage scrub associates.

- 3) Creation of linkage should utilize patches of existing habitat to the maximum extent practicable. Creation of the linkage must utilize patches of existing habitat within the identified linkage alignment.

The Dos Colinas Project is consistent with the HMP. Although not identified as a formal corridor, the HMP references the wildlife corridor status of Agua Hedionda Creek (pg. D-79). A portion of Core Area 5 occurs along Agua Hedionda Creek to the east of the proposed affordable housing development site. No impacts are proposed within Core Area 5. Proposed mitigation measures would support the use of Agua Hedionda Creek as a corridor including:

- A Biological Conservation Easement will be placed over a proposed open space parcel along Agua Hedionda Creek within the affordable housing development site (APN #209-060-68) such that conservation of the creek corridor is extended westward from the terminus of the defined Core Area 5; this area is proposed hardline conservation area.
 - A Biological Conservation Easement will be placed over a proposed open space parcel within the southern portion of the planned senior community site (APN# 209-060-70). The area supports an existing, isolated patch of moderate to high quality Diegan coastal sage with special status flora species; this area is proposed hardline conservation area.
 - A large patch of undeveloped lands within the planned senior community site (APN #209-060-71) will be designated as open space; this area is not proposed as a hardline conservation area at this time. (Designation of this land as open space would ensure a biological connection between Agua Hedionda Creek and the upland Biological Conservation Easement. Currently, within this area, a mature canopy of eucalyptus woodland covers an unoccupied house and equestrian stables with little to no understory.)
- 4) Maintain and enhance the wildlife movement potential between core areas using sensitive design of any road or utility crossings of Linkage C.

The Dos Colinas Project site is not located within Linkage Area C. For additional information regarding the Dos Colinas Project design to maintain wildlife movement throughout the site, refer to the discussion above regarding Planning Standards of Zone 15; City HMP pg. D-79.

- 5) Conserve all riparian habitats on-site and prohibit the fill development within the existing floodplain except where required for Circulation Element roads, Drainage Master Plan facilities, or other essential infrastructure.

The Dos Colinas Project does not impact any riparian habitat and thus is consistent with this element of the standards. A small portion of streambank subject to California Department of Fish and Game (CDFG) regulatory jurisdiction would be affected by the tie-in of a single storm drain to Agua Hedionda Creek. No wetlands or riparian habitat would be affected by the proposed work.

The Dos Colinas Project is not independently consistent with the HMP relative to prohibitions on floodplain filling. The Dos Colinas Project would result in the filling of 5.09 acres of upland floodplain. However, the project provides the necessary area for relocation of existing uses from the Basin BJ, a Drainage Master Plan facility, allowing for the creation of this basin with an offsetting gain of 4.79 acres of new floodplain contiguous with the Core Area 3 that has the added benefits of removing the garden and RV storage area from areas abutting intact native habitat and providing a more compatible flood basin land use. Compensation for the loss of floodplain volumetric capacity is provided by the Dos Colinas Project. With the overall floodplain modifications proposed between the project-facilitated Basin BJ and the Dos Colinas implementation, there is a no-net-loss of floodplain.

Concurrence with project impacts and compensation by the City of Carlsbad and Wildlife Agencies is necessary. The below section discusses the unavoidable filling of the floodplain and the proposed compensation measures.

Initial Phase

The Initial Phase of the proposed project consists of relocation of the RV Parking/Garden parcel from its current off-site location, which is outside of the 100-year floodplain along Little Encinas Creek on property owned by the Rancho Carlsbad Owners Association (RCOA) into the subdivision of Dos Colinas. Specifically, the RV Parking/Garden parcel would be relocated immediately adjacent to the Rancho Carlsbad Estates community within undeveloped extensive agriculture lands that are situated within the 100-year floodplain in order to allow the construction of the Basin BJ. This relocation is a required mitigation measure of the Final EIR for the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4, & Detention Basin (RECON 2001, EIR No. 98-02, SCH No. 99111082); specifically as a result of College Boulevard – Reach A element of the Final EIR. College Boulevard – Reach A is a City approved City Circulation Element Road and identified as a major arterial within a 102-foot right of way. Grading to support the new RV Parking/Garden parcel includes the following: 1) partial fills for the RV area per grades approved by the MS-09-04; 2) borrow of on-site soil (Parcel 1) adjacent to, but outside the limits of the proposed RV parcel (Parcel 2) per grading limits shown on MS-09-04, and 3) grading of proposed water quality bio-retention. In order for the Dos Colinas Project to facilitate required mitigation for the Final EIR for the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4, & Detention Basin, the Dos Colinas Project cannot avoid impacts to the floodplain.

The existing habitat to be impacted as a result of the RV Parking/Garden parcel is limited to extensive agriculture, disturbed habitat, and urban/developed lands. The dominant species representing the agricultural community are non-native annual species including *Avena*, *Hordeum*, *Bromus*, and *Erodium* species. These lands are located immediately adjacent to the Rancho Carlsbad Estates community and are currently disked/mowed for fallow agricultural purposes on a yearly basis. Overall, the dense non-

native grasses and forbs choke out the lands preventing growth of most native species. The annual mowing and/or disking also prevent the establishment of native perennial species due to loosening of the soil and removal of vegetation.

Habitat-based mitigation for impacts to extensive agriculture and disturbed habitat (HMP Habitat Group F) is a requirement of the City's HMP; no mitigation is required for impacts to urban/developed lands. No additional on-site compensation measures are proposed during the Initial Phase of the Dos Colinas Project. However, it should be noted that removal of the RV storage and community garden site from its current location would allow for the creation of the Basin BJ in accordance with the Final EIR for the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4, & Detention Basin (RECON 2001, EIR No. 98-02, SCH No. 99111082). The original intent of the Basin BJ was to serve as compensatory wetland mitigation for impacts resulting from the Final EIR for the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4, & Detention Basin (RECON 2001, EIR No. 98-02, SCH No. 99111082), specifically, College Boulevard – Reach A. However, a more desirable mitigation site along Agua Hedionda Creek, within the Lubliner Parcel will be utilized. The Applicant of the Final EIR for the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4, & Detention Basin is still proposing to construct the Basin BJ as required by the City for flood control purposes. The Basin BJ would be constructed via pulling back the existing creek banks, avoiding impacts to the ordinary high water mark (OHWM), and ultimately lowering the adjacent area to allow for overbank flooding and peak flow storage. This technique would result in creation of 100-year floodplain. The basin is expected to require minimal maintenance that would be limited to removal of debris build up, and if necessary sediment removal on a bi-yearly basis (i.e., every other year) or as determined necessary. Creation of the Basin BJ would remove urban/developed lands from Core Area 3 and replace these lands with additional 100-year floodplain, which if managed for biological values would enhance the native wetland habitat along Little Encinas Creek and extend conservation areas and resource values within Core Area 3 westward. Currently, Little Encinas Creek (at this location) offers little biological value due to the lack of riparian cover or significant herbaceous cover. Biologically, the low growing sporadic vegetation, high degree of erosion, and extensive amount of riprap or other concrete rubble within the creek prevents the system from capturing high sediment retention and possible groundwater recharge. In addition, the lack of vegetation and eroding banks decrease detrital capture and carbon-cycling. While southern coast live oak riparian forest occurs upstream from the existing RV storage and community garden site, historic urban and agricultural uses and filling of the Little Encinas Creek floodplain in this area have confined the creek bed and bank boundaries to a narrow armored channel. With the proposed relocation of the RV Storage and Garden area by the Dos Colinas Project the removal of fills at Basin BJ is accommodated. Construction of the Basin BJ would impact approximately one-acre of habitat within Core Area 3. The project lands within Core Area 3 are very small and primarily comprised of urban/developed lands consisting of the existing garden managed by the residents of the Rancho Carlsbad Mobile Home Park. Thus, these lands are highly disturbed in nature and not biologically diverse. Overall, while the creation of the Basin BJ would be implemented under the Final EIR for the Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4, & Detention Basin, the relocation of the RV Parking/Garden parcel within the subdivision of Dos Colinas would facilitate implementation the construction of College Boulevard – Reach A, which is a City approved City Circulation Element Road as well as creation of the Basin BJ. It is recommended that the fills associated

with the relocation of the Rancho Carlsbad RV storage and garden area be considered an element of the creation of the Basin BJ and that this facility and all associated elements meets the exception for floodplain fills for Circulation Element roads, Drainage Master Plan facilities, or other essential infrastructure.

Second Phase

Portions of the planned senior community are located within the 100-year floodplain. Specifically, the project would raise portions of the proposed access road leading into the planned senior community from the Rancho Carlsbad housing community out of the floodplain. Previous conditions of approval placed on the RCOA property [RMHP 96-01(D)], included the requirement for a secondary access to College Boulevard; thus the access road is an essential infrastructure requirement and cannot be eliminated. In addition, slopes associated with recreational and non-residential usage that currently support agricultural and eucalyptus lands would be raised out of the floodplain. Cumulatively, the impacted lands on the planned senior community consist primarily of extensive agricultural and secondarily of eucalyptus woodland and disturbed habitat. The extensive agriculture is located adjacent to the Rancho Carlsbad Estates community. The eucalyptus woodland is located adjacent to Agua Hedionda Creek, on the north side of the Creek. An unoccupied house and equestrian stables are present at this location. A mature canopy of eucalyptus woodland covers much of the site. Little to no understory is present under the canopy. Agua Hedionda Creek is incised, highly eroded, and does not support a diverse riparian community in this area. Overall, the eucalyptus woodland community lacks an understory and provides fauna habitat, primarily avian use, simply due to its undeveloped nature.

Nearly the entire residential usage area associated with the affordable housing development site would be raised out of the floodplain. The development of this parcel is necessary to meet the project goals and objectives of developing affordable living units. The impacted lands on the affordable housing development site consist entirely of urban/developed lands. Abandoned equestrian stalls are located on the land. Sporadic native weedy species can be found on-site, but the majority of the area is comprised of compacted soils, with piles of debris, and little to no vegetation. Biologically the area does not contribute any function or value to the adjacent riparian habitat. Due to the lack of vegetation, the only species identified to forage within this disturbed area consisted of common resident upland avian species such as the black phoebe, house finch (*Carpodacus mexicanus*), and swallow species.

Habitat based mitigation for impacts to extensive agriculture and disturbed habitat (HMP Habitat Group F) is a requirement of the City's HMP; no mitigation is required for impacts to urban/developed lands. The following measures to compensate for impacts to the floodplain have been incorporated within the Project-Specific Mitigation Measures:

- A floodplain storage volume resulting in a net gain of approximately 246,380 cu. ft. within the planned senior community site will be accomplished via removal of an average of three feet of soil from inside and just outside the floodplain. Three detention basins will be created within the southwestern portion of the planned senior community and the equestrian site would be lowered in elevation. The basins will temporarily impound storm water and convey flow from north to south based on elevation. The upper two of the basins will serve as the primary storage areas and will be maintained on a regular basis. Flow will ultimately be conveyed into the third and largest basin

where it will connect to the proposed storm drain channel and drain into Agua Hedionda Creek. Regular maintenance of the third basin is not expected. The following are recommendation that should be implemented in association with the third basin:

- The basin would be planted with native riparian species. Dominant species would include arroyo willow, western sycamore, and mule fat.
- Exotic invasive species including eucalyptus trees and pampas grass would be removed from the basin on a regular basis.

Planting of the third basin with native riparian habitat would contribute to the biological value of habitat between Agua Hedionda and Little Encinas Creeks. The basins would be located within a narrow urban area between existing and proposed development. The Rancho Carlsbad golf course, proposed RV Parking/Garden parcel, and existing recreational facilities would also be located within this narrow corridor. This area is not expected to provide substantial habitat for dispersal of species, but it may allow for movement of meso-predators between Agua Hedionda Creek and Little Encinas Creek.

- Lowering of the equestrian site pad on the planned senior community site (APN #209-060-71) to expand the floodplain over 0.30 acres of this site. Expansion of the floodplain would occur concurrently with project impacts during the Second Phase of the Dos Colinas Project. All graded areas would be reseeded with appropriate low-growing native species for erosion control purposes after completion of the project.
- A total of 5.05 acres of upland habitat within planned senior community (APN #209-060-71) will be designated as biological open space. While conservation of this segment of the creek will be assured under the present project actions, future creek improvements for mitigation credits or enhancement would trigger the need for active creek management actions. The following measures would occur within this parcel:
 - All existing equestrian structures will be permanently removed from the 100-year floodplain concurrent with project impacts; this represents approximately 0.1 acre of enhancement within existing floodplain and implementation of a permanent open space overlay over additional lands that are located just above floodplain level for future conservation and restoration values along Agua Hedionda Creek.
 - The equestrian site pad would be lowered slightly to expand the floodplain over 0.30 acres of this parcel. Expansion of the floodplain would occur concurrently with project impacts. All graded areas would be reseeded with appropriate low-growing native species for erosion control purposes after completion of the project.
- A storage volume net gain of approximately 41,310 cu. ft. within the affordable housing development site will be accomplished via removal of an average of six feet of soil from the floodplain. One hydromodification/overflow basin will be constructed and connect directly to Agua Hedionda Creek via one inlet and one outlet aperture. Agua Hedionda Creek is a system that has a great deal of stream bank and bed erosion from the high velocity flows due to urban

development throughout the entire watershed. The proposed overflow basin would assist in decreasing peak flow volume and velocity within the creek. The following measures must be implemented in association with the basin:

- The basin is located within the modified wetland buffer on the affordable housing development site. As a result, the basin will be designated as open space via establishment a restrictive covenant limiting the allowable uses to conservation of habitat, compatible enhancement and maintenance activities, and minimal maintenance activities for purposes of maintaining the overflow basin and associated BMPs. This requirement is the same mitigation measure as stated above within the Wetlands and Jurisdictional Waters mitigation section.
- Maintenance of the basin will be minimal and limited to removal of debris buildup by hand within the inlet and outlet aperture. No dredging of the basin bed and no vegetation removal will be required. All maintenance will limited to outside the least Bell's vireo breeding season (March 15 - September 15) and outside the raptor breeding season (January 15 – September 15).
- A permanent 6-foot chain link domestic barrier fence with at minimum 1-foot of the fence buried into the ground will be placed between development and the basin.
- An additional fence will be placed between the basin and the existing riparian habitat along Agua Hedionda Creek that will be preserved via a biological conservation easement. The fence would consist of galvanized steel posts (painted brown) placed within concrete footings at a maximum distance of 20 feet. Two strands of galvanized braided cable would be placed linking the posts together, with the lowest strand encased within a brown PVC pipe that is UV resistant.
- The basin will be revegetated with native riparian species. Dominant species will include arroyo willow, western sycamore, coast live oak, mule fat, California blackberry, and yerba mansa.

Analysis

With the cumulative fill and soil removal, there would be a net gain of storage volume within the floodplain of approximately 5.7 acre-feet at the planned senior community site and 1 acre-foot at the affordable housing development site. In addition, creation of the Basin BJ represents an approximate net gain of 20 acre-feet of storage volume.

The amount of floodplain acreage lost due to impacts within the Dos Colinas Project is entirely offset via on-site and off-site creation of floodplain, resulting in a no-net-loss of floodplain. As documented within the Table below, the creation of floodplain within the Basin BJ accounts for most of the net gain. A net loss of 0.30 acre of floodplain was identified as a result of considering gains and losses from the various elements, including Basin BJ. To ensure no net loss of floodplain occurs, the equestrian site pad would be lowered slightly to expand the floodplain over 0.30 acre of this site.

Summary of Floodplain Area Lost and Gained

Location	Acres Lost or Gained
Affordable Housing Development Site	1.02 acres lost
Planned Senior Community Site	4.07 acres lost
Basin BJ	4.79 acres gained due to creation
Equestrian Site	0.30 acres gained due to lowering pad elevation
Summary Total:	0.00 acre difference

Overall, the Dos Colinas Project site floodplain impacts are very nearly balanced by the gains of floodplain within Basin BJ. Effectively this element of gains and losses can be viewed as a transfer of the development, and floodplain fill from Basin BJ into the Dos Colinas site in order to accommodate the construction of Basin BJ, meeting the Circulation Element roads, Drainage Master Plan facilities exclusion criteria as these are essential actions to construct the basin. The RCOA secondary access to College Boulevard is similarly an essential infrastructure element of work. Fills required for the affordable housing element are less clearly qualifying as infrastructure, but are an essential requirement of the City to achieve a public benefit.

The loss of floodplain storage capacity on the project site would be more than off-site via creation of multiple basins and lower, more frequently inundated floodplain areas. Biologically, construction of the Basin BJ at its proposed location is expected to create superior riparian habitat conditions than those currently present along Little Encinas Creek. Thereby supporting Little Encinas Creek as a corridor and extending the conservation areas westward. Creation of the hydromodification/overflow basin within the affordable site will expand on existing multi-tiered habitat along Agua Hedionda Creek and create habitat suitable for the least Bell's vireo, and thereby extending Core Area 5 westward. Overall, extensive agriculture and urban/developed lands are the primary habitats that will be impacted on the Dos Colinas Project site as a result of impacts to the floodplain. The extensive agriculture lands are primarily located adjacent to the Rancho Carlsbad Estates community and are comprised of non-native grasses and forbs preventing growth of most native species.

The primary source of floodplain losses result from measures necessary to implement the Basin BJ and secondary emergency access (Circulation Element roads, Drainage Master Plan facilities, or other essential infrastructure). Where impacts are unavoidable, the off-setting mitigation for floodplain impacts provides for improved overall conditions relative to achieving the objectives of the HMP. These offsetting measures include: 1) moving existing uses out of the Basin BJ site and away from Core Area 3 and making the area more compatible with the adjacent conservation lands; 2) expanding floodplain hydrologic storage beyond the losses incurred; 3) increasing the frequency of flooding within the expanded floodplain, such that it serves greater floodplain function; 4) enhancing floodplain areas by restoration of riparian habitat where such restoration is compatible with hydrologic storage; and 5) placing an open space easement over lands adjacent to Agua Hedionda Creek and expanding floodplain in this area to achieve no net loss of floodplain area and to allow for future creek restoration of the creek corridor. The proposed project would result in an overall superior floodplain function and value than that being lost.

- 6) Conserve any narrow endemic plant populations identified during planning.

No narrow endemic plant populations were identified on-site during the biological surveys for the project. Due to the historic and ongoing agriculture use and annual disking of the soil, the on-site soils within the upland habitats are generally loose and not likely to support surface water for a sufficient period of time to form suitable conditions for many perennial species. As a result of the biological surveys and conditions on the site, the study area has a low potential to support rare plants beyond the two species found on-site.

- 7) When conversion of agricultural lands to other uses is proposed, the proposed development must set back all development impacts at least 100 feet from existing wetland habitats and require habitat restoration or enhancement in the riparian and buffer areas.

The Dos Colinas Project is not explicitly consistent with the HMP 100-foot width standard, but can achieve consistency through alternative buffer design that obtains concurrence from the City and Wildlife Agencies.

All proposed development associated with the planned senior community have been set back at least 100 feet from Little Encinas Creek. However, the proposed project has not incorporated a riparian buffer between Little Encinas Creek and project impacts. Specifically, a riparian buffer is not proposed from the edge of Little Encinas Creek as the road to be realigned (i.e., Don Carlos Drive) will connect to an existing paved road associated with the Rancho Carlsbad Estates community, which is currently within 10 feet of the creek. The current intersection of the existing roads is also within 10 feet of the Creek. As a result of the proximity of existing roadway infrastructure to the creek, provision of a wider buffer in this area is not feasible. The lands being impacted by the realignment of the proposed Don Carlos Drive consist of urban/developed lands used by the housing community for recreational facilities; no impacts to jurisdictional resources would be incurred. Within the 300-foot mapping buffer, Little Encinas Creek offers little biological value due to the lack of riparian cover or significant herbaceous cover. The drainage does support low- to moderate-velocity flows and potential low-quality ponding areas; however, biologically, the low growing sporadic vegetation prevents the system from capturing high sediment retention and possible groundwater recharge. In addition, the lack of vegetation and eroding banks decrease detrital capture and carbon-cycling. Overall, the realignment of the road is not significantly changing the existing conditions of the site. Concurrence from the City and Wildlife Agencies is required for consistency findings.

All development associated with the planned senior community site has been set back at minimum of 100 feet from Agua Hedionda Creek. Although not a wetland, the project has set back all development from the non-wetland waters that occur under the eucalyptus woodland canopy at the southern portion of the planned senior community site (APN #209-060-71 and -70). Specifically, no impacts would be incurred within the Protection Zone that extends a minimum of 50 feet measured from the outside of the top of the bank (or riparian system if associated with a wetland). A portion of the development slope (i.e. fill slope associated with detention basin adjacent to southern cluster of cottage) would be located within the Separation Zone that extends a minimum of 50 feet from the Protection Zone. No fuel modification is proposed within the Protection or Separation Zones. In addition, no lighting is proposed or required for

safety purposes within the two zones. No maintenance and monitoring requirements are necessary for the development slope. However, it is recommended that the planting palette on the development slopes be coordinated between biologists and the project landscape architect to ensure that native species (Protection Zone) and non-invasive species (Separation Zone) are utilized. Species that would be recommended in the Protection Zone include low growing shrubs such as California sagebrush, buckwheat, spreading goldenbush, coast cholla, with few inclusions of tree species such as laurel sumac, lemonadeberry, and toyon. The planned senior community site is fully consistent with the HMP buffer width standards. Finally, the Dos Colinas Project is recording an open space easement over the equestrian site (APN #209-060-71) located adjacent to Agua Hedionda Creek downstream of the College Boulevard. As this easement does not provide for the management actions of the conserved lands used for project mitigation, it is potentially inconsistent with the HMP. However, the open space easement would ensure long-term buffering benefits in this area and potential for expanded creek habitat restoration in the future.

All residential units associated with the affordable housing site have been set back a minimum 100 feet from the riparian canopy associated with Agua Hedionda Creek. A 50-foot Protection Zone is provided between adjacent riparian habitat and the development, and a 50-foot Separation Zone is provided between the Protection Zone and the development for approximately 77% of the buffer length. At the easterly end of the buffer, an area of approximately 0.1 acre of the Separation Zone is omitted to accommodate parking for the Affordable Site. At the westerly end of the buffer additional width has been added such that the average buffer width on the affordable housing site is approximately 97 feet. Where the buffer has been omitted at the east end of the parcel, it would otherwise abut an existing multi-level affordable residential structure on an off-site parcel. Inclusion of a Separation Zone here would not provide additional buffering capacity to the riparian corridor because the intervening area to the riparian zone on the adjacent parcel is comprised of a paved parking lot.

In lieu of the easterly buffer, the Applicant has expanded the southwestern portion of the buffer by approximately 0.06 acres. Here, the expanded area abuts the proposed College Boulevard – Reach A and provides for continuous and significant habitat with the riparian habitat of the hydromodification/overflow basin. While the buffer does not maintain a consistent 100 foot width, the distribution of buffer along the interface with the Agua Hedionda Creek wetlands is a biologically preferred condition in that it does not place Separation Zone Buffer outside of more significantly impacted development encroachments on the adjacent parcel and it places expanded buffer area where the broader buffer values can contribute directly to the Creek wetlands. Concurrence from the City and Wildlife Agencies is required.

The hydromodification/overflow basin will be located within the wetland buffer on the affordable housing development site. As discussed above, the basin is required for compensation of loss of floodplain capacity but it is not a sedimentation basin. Maintenance of the basin will consist of as-needed debris removal from the inlet and outlet apertures with minimal vegetation removal by hand should species take root within each aperture. These activities are no different than those required along the main creek area at hydrologic control structures. Regular maintenance of the bio-retention strip would prevent the need for

sediment removal maintenance activities within this larger basin and, as such, dredging of the basin bed and vegetation removal on the slopes would not be required.

Project biologists (M&A) have coordinated with the project landscape architect to ensure that appropriate native riparian plants are utilized within the bio-retention strip and hydromodification basin. With the use of this area as a buffer, the Applicant will place a restrictive covenant over the area limiting the allowable uses to conservation of habitat, compatible enhancement and maintenance activities, and minimal maintenance activities for purposes of maintaining the basin hydrologic function. Because of the allowance for the basins vegetation to mature and persist as riparian habitat, the buffering values of this area are well-suited to providing buffering values, improved floodplain function, and expanded riparian wetland habitat along the Agua Hedionda Creek corridor. Placement of a basin within the buffer will require concurrence from the City and Wildlife Agencies.

The Protection Zone from Agua Hedionda Creek at the affordable housing development site will include the northern most slope of the hydromodification/overflow basin, which would be planted with native riparian habitat dominated by tree species. The entrance to the basin/emergency vehicle turn around is located within this zone in the southeastern portion of the buffer. Access into the basin is a requirement of the City and thus cannot be removed. The access path would be constructed of a pervious surface and planted with the native riparian grasses of beardless wild ryegrass and saltgrass. These grasses will allow emergency and maintenance vehicles to easily drive over the area while still supporting the weight of the vehicle. The Separation Zone includes the remaining portion of the basin and includes the access path into the basin and the bio-retention strip. No residential structures, associated development facilities (i.e., parking), or passive recreation areas are included within the proposed Protection or Separation Zones. Both zones have been designed to include only pervious surfaces. No permanent irrigation is proposed within either zone, unless required for temporary revegetation purposes for plant establishment within the basin bed and banks. In addition, no fuel modification or lighting is proposed within either zone.

Essential stormwater control facilities and associated access roads are allowable uses within the Protection Zone according to the April 2010 Guidelines for Riparian and Wetland Buffers (City pg. 25). The hydromodification/overflow basin is essential to compensate for loss of floodplain capacity as Agua Hedionda Creek is a system that has a great deal of stream bank and bed erosion from the high velocity flows due to urban development throughout the entire watershed. The proposed basin would assist in decreasing peak flow volume and velocity within the creek. In addition, the basin would allow for the creation of highly beneficial multi-tiered wetland habitat serving as a buffer between the existing Agua Hedionda Creek and proposed development. Most notably, the buffer would be managed for natural biological values, which is a requirement by the City's HMP due to the presence of least Bell's vireo (pg. D-92). The basin would require minimal maintenance and permanent fence barriers would be constructed to prevent access into the buffer. Subsequently, the Applicant would place a restrictive covenant over the area for 95 percent conservation by the Applicant due to minimal maintenance requirements associated with the basin. As described above, this site is currently comprised of abandoned equestrian stalls and biologically does not contribute any function or value to the adjacent riparian habitat. Elimination of the basin would result in an upland buffer rather than a multi-tiered riparian buffer. An upland buffer at this

location would be isolated from adjacent upland habitat and would not benefit upland sensitive floral or faunal species within the area to lack of adjacency to other complementary habitat. The proposed basin in conjunction with the designated open space areas along Agua Hedionda Creek would contribute to the movement of floral and faunal species along the Agua Hedionda Creek corridor and would provide an large node of expanded corridor width just upstream of a narrowing of the riparian corridor as it passes through the golf course and Rancho Carlsbad project. This is expected to directly benefit least Bell's vireo, for which a cowbird trapping program is planned in conjunction with the College Boulevard – Reach A project.

Approved stormwater BMPs and treatment facilities are allowable uses within the Separation Zone according to the April 2010 Guidelines for Riparian and Wetland Buffers (pg. 25). As a result, the bio-retention strip associated with the hydromodification/overflow basin is an allowable use within the Separation Zone.

B. Per Section D-6 of the HMP, projects that would affect wetlands must demonstrate that the impacts:

- 1) Cannot be avoided by a feasible alternative;
- 2) Have been minimized to the maximum extent possible; and,
- 3) Would be mitigated in ways that assure no net loss of habitat value and function. A determination of consistency with the HMP's wetlands requirements would require coordination and consultation between the project proponent and the City.

The Dos Colinas Project is consistent with the HMP. The project has been designed to fully avoid impacts to wetlands and federally regulated waterways. However, permanent impacts of 0.01 acres of riprap armored or non-vegetated earthen stream bank subject to regulation by CDFG would occur from extension of the off-site storm drain channel to Agua Hedionda Creek. This hydrologic drainage tie-in cannot be avoided since water conveyance to the creek system is the only feasible means of managing stormwater on the site. The design of the stormwater discharge system consists of connecting the drain with a headwall and riprap energy dissipater outside the OHWM of the creek. This would result in no impacts to Army Corps of Engineers' (ACOE) jurisdictional waters, but a minor impact to the CDFG streambank would occur. Existing slope armoring would be used to receive and dissipate energy from the storm drain connection. An alternative to the storm drain has been proposed, but permanent impacts to stream bank subject to regulation by CDFG would equal the same as the proposed project because of the required connection to the creek. The proposed connection would not remove any wetland jurisdiction and would not reduce the functions of the existing bank where the drain tie-in would occur. The following measures to compensate for impacts to CDFG streambank have been incorporated within the proposed Mitigation Measures:

- Development of a streambed alteration agreement with the CDFG, pursuant to section 1602 of the California Fish and Game Code.

- Mitigation for temporary disturbance of the 0.01-acre of unvegetated CDFG stream bank would occur through preservation of wetlands within a Riparian Biological Open Space, located within Agua Hedionda Creek.
- A Biological Conservation Easement will be placed over a proposed open space parcel along Agua Hedionda Creek within the affordable housing development site (APN #209-060-68) such that conservation of the creek corridor is extended westward from the terminus of the defined Core Area 5; this area is proposed hardline conservation area. Guidelines for perpetual long-term management of the easement would be established by the Applicant within a Habitat Management Plan. Restoration within the open space would include at minimum, 0.01 acres through removal of non-native species and replacement with native riparian habitat on Agua Hedionda Creek.

- **Narrow endemic species**

No narrow endemic plant populations were identified on-site during the biological surveys for the project.

- **All future projects, including public projects, shall mitigate impacts to habitat on mitigation requirements provided in Table 11 of the HMP.**

The Dos Colinas Project is consistent the HMP. Refer to Tables 5.6-7 and 5.6-8 within the Biological Resources Report for mitigation acreage information.

- **Projects which conserve at least 67% percent of habitat on-site shall not be subject to off-site mitigation. Habitat conserved on-site shall be credited toward mitigation.**

The Dos Colinas Project will not conserve at least 67% of habitat on-site. HMP Habitats B and D impacted will be mitigated on-site within the proposed 1.21-acre upland Biological Conservation Easement within the planned senior community development site. Specifically, 0.04 acres of disturbed valley needlegrass grassland (HMP Habitat B) will be impacted. Applying a 3:1 mitigation ratio results in the need for 0.12 acres of restoration and preservation. In addition, a total of 0.65 acres of Diegan coastal sage scrub (HMP Habitat D) will be impacted. Applying a 1:1 mitigation ratio results in the need for 0.65 acres of restoration and preservation. The cumulative mitigation acreage of 0.77 will occur within the 1.21 acres of upland Biological Conservation Easement.

Impacts to HMP Habitats E and F will pay an in lieu fee based on the City's Development Processing Fee Schedule. The fees will be assessed at the time of project impact.

- **Species-specific measures will be required of any project that may impact habitat of the least Bell's vireo (*Vireo bellii pusillus*).**

The Dos Colinas Project is consistent with the HMP. One pair of least Bell's vireos (*Vireo bellii pusillus*) and at least two fledglings (i.e., Vireo #1) have been determined to occupy the riparian habitat within Agua Hedionda Creek (on and adjacent to the affordable housing development site parcel, APN #209-060-68). The project has been designed to avoid direct impacts to this species and is preserving the on-site portion of the Creek as open space via a Biological Conservation Easement (discussed above). The following

Construction Design Measures to Avoid Unanticipated Impacts have been incorporated within the Project-Specific Mitigation Measures to ensure avoidance of impacts:

- Prior to construction activities, best management practices (BMPs) shall be implemented according to the City's HMP.
- Construction adjacent to the occupied habitat is to occur outside of the vireo breeding season (generally March 15 – September 15). If avoidance of the nesting bird season is not feasible, vegetation removal and construction activities may occur during the restricted work period if the project biologist conducts a focused survey for active nests within forty-eight (48) hours prior to work in the area. If the survey identifies an active nest, a buffer shall be established between the construction activities and the active nest so that nesting activities are not interrupted. The buffer shall be delineated by temporary fencing, and shall be in effect throughout construction or until the nest is no longer active. The buffer shall be a minimum of 300 feet of a listed bird nest. The Applicant may consult with the CDFG and USFWS to discuss a reduced buffer size if species sensitivity and localized conditions (e.g., width and type of screening vegetation between the nest and the proposed activity, terrain, existing level of human activity within the buffer and in the surrounding area, and existing ambient level) warrant a reduced buffer.
- A modified buffer from occupied vireo habitat is included on the affordable housing development site. This requirement is the same measure as stated above within the Wetlands and Jurisdictional Waters mitigation section.
- Construction noise levels at the riparian canopy edge shall be kept below 60 dBA Leq from 5 a.m. to 11 a.m. during peak nesting periods (March 15 – July 15). For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a one-hour period. Noise levels shall be monitored and monitoring reports shall be provided to the jurisdictional city, USFWS, and CDFG. Noise levels in excess of this threshold shall require written concurrence from USFWS and CDFG and may require additional minimization/mitigation measures.

Measures for HMP covered species

Table 9 of the HMP provides management recommendations and impact avoidance/minimization measures for HMP covered species. The following HMP covered species were identified on the Dos Colinas Project site: Cooper's hawk and least Bell's vireo.

No raptor nests are currently located within the footprint of the proposed project. However, adjacent eucalyptus woodland and riparian habitats near Little Encinas Creek and Agua Hedionda Creek do support raptor nests. Impacts to active raptor nests would be considered significant and would require that construction design measures as listed in Section 5.6-5 implemented to avoid disturbance of active nests.

The project has been designed to avoid direct impacts to the least Bell's vireo. Construction Design Measures to Avoid Unanticipated Impacts have been incorporated within the proposed mitigation measures to ensure avoidance of impacts.

C. Section F3 of the HMP (pg., F-16), adjacency standards

The Dos Colinas Project is consistent the HMP. Adjacency standard topics include 1) fire management, 2) erosion control, 3) landscaping restrictions, 4) fencing, signs, and lighting, and 5) predator and exotic species control. Details regarding this information can be found within the Biological Resources Report. The below sections provide a brief discussion regarding each topic.

- **Fire management**

All 60-foot fuel modification zones are located adjacent to the proposed development and have been evaluated as a permanent impact. Landscaping within the fuel zones are consistent with the HMP and/or have been discussed with the Fire Marshall.

- **Erosion control**

Prior to construction activities, BMPs shall be implemented according to the City's HMP and/or according the Appendix B of the Final MHCP Subarea Plan, Volume II. Adequate requirements for dust, drainage, and erosion control shall be incorporated into project plans and grading permit conditions. The erosion control material shall include a hydroseed-mix of non-invasive herbaceous species, consisting of similar species currently on site, avoiding those species listed by the California Invasive Plant Council (Cal-IPC) in the California Invasive Plant Inventory (2007).

- **Landscaping restrictions**

Landscaping along development slopes and adjacent to open space have encouraged to coordinate with M&A biologists to ensure the use of a native planting palette. Native planting recommendations have been provided within the Biological Resources Report as well as directly to the Landscape Architect.

- **Fencing, signs, and lighting**

Permanent fencing and signs between open space areas and development is included within the proposed Dos Colinas Project. No lighting is proposed within the open space areas. The project shall incorporate low-pressure sodium lighting that is downcast/fully shielded temporary (during construction activities if required) and permanent lighting (associated with development adjacent to the open space) within its lighting plan.

The permanent fence will be placed around the upland Biological Conservation Easement and hydromodification/overflow basin. The fence will be placed between development and the basin. The fencing would be chain link and at minimum 6 feet tall with 1-foot of the fence buried into the ground to prevent domestic animals from going under the fence. An additional fence will be placed between the basin and the riparian Biological Conservation Easement along Agua Hedionda Creek for additional demarcation purposes. The fence would consist of galvanized steel posts (painted brown) placed within concrete footings at a maximum distance of 20 feet. Two strands of galvanized braided cable would be placed linking the posts together, with the lowest strand encased within a brown PVC pipe that is UV resistant.

- **Predator and exotic species control**

All areas preserved via a conservation mechanism (i.e., biological conservation easement or restrictive covenant) will require perpetual maintenance and monitoring, the guidelines of long-term management of the easement would be established within a Habitat Management Plan. Long-term management duties of the open space would include (but not limited to) perpetual repairs to ensure site protection (i.e., fencing, signage), trash and debris removal, weed control, and erosion control. The Habitat Management Plan would include the following: 1) a description of management, maintenance, and monitoring actions, 2) cost estimation (i.e., property assessment review [PAR]) and a funding mechanism, and 3) the anticipated long-term land manager's name, qualifications, business address, and contact information.

D. Additional Zone 15 recommendations (City HMP pg. F-27) include:

- **Manage preserve areas for habitat value for California gnatcatchers.**
- **Restore or enhance coastal sage scrub to improve connectivity and gnatcatcher nesting habitat within Linkage Area C.**

The Dos Colinas Project site is not located within Linkage Area C. No coastal California gnatcatchers were detected on-site or within the 300-foot mapping buffer during the protocol surveys.

As additional information, the Dos Colinas Project is proposing restoration and preservation of an existing patch of Diegan coastal sage scrub within the planned senior community site to serve as mitigation for impacts to native grassland and coastal sage scrub. This is the same measure as discussed above within the Planning Standards of Zone 15. Restoration would occur via removal of non-native species and replacement with native grasses and sage scrub associates. A conceptual five-year mitigation, maintenance, and monitoring plan will be required for the restoration of the habitat. In addition, perpetual maintenance and monitoring of the open space would occur via establishment (by the Applicant) of a perpetual Biological Conservation Easement, the guidelines of long-term management of the easement would be established within a Habitat Management Plan. Long-term maintenance and monitoring would commence upon completion of the five-year maintenance and monitoring. The patch of sage scrub would contribute to the open space connectivity for upland and riparian species between Agua Hedionda Creek and the development such that conservation of the creek corridor is further extended westward from the terminus of the defined Core Area 5.

- **Restrict fuel reduction for fire management to areas immediate adjacent to existing housing, and minimize removal of conserved habitats to the extent feasible, given safety concerns.**

The Dos Colinas Project is consistent with the HMP. All 60-foot fuel modification zones are located adjacent to the proposed development and have been evaluated as a permanent impact. Specifically, a 60-foot fuel modification zone is located along the southern portion of the planned senior community between the proposed upland Biological Conservation Area and the proposed residential development. In addition, a 60-foot fuel modification zone is located along the northern portion of the affordable housing development site between the proposed buffer and proposed residential structures. The fuel modification zone within

the affordable housing development has been incorporated within the parking lot associated with the development.

- **Remove exotic species, including eucalyptus trees and pampas grass, from within natural habitat areas and linkages.**

The Dos Colinas Project is consistent with the HMP. All areas proposed to be conserved via a conservation mechanism (i.e., Biological Conservation Easement or restrictive covenant) will require preparation of a long-term maintenance and monitoring plan. The upland area solely designated as open space, without the implementation of a conservation mechanism will be enhanced via permanent removal of all existing equestrian structures from the 100-year floodplain. While conservation of this segment of the creek will be assured under the present project actions, future creek improvements for mitigation credits or enhancement would trigger the need for active creek management actions.

E. An evaluation is also made relative to compliance with the newly developed Guidelines for Riparian and Wetland Buffers (April 2010).

Refer to the discussion above regarding the 100-foot setback from existing wetland habitats when conversion of agricultural lands to other uses is proposed (Planning Standards of Zone 1.5; City HMP pg. D-79). Concurrence from the City and Wildlife Agencies is required.

HMP Consistency Conclusion

As discussed in detail above, the proposed project is not consistent with all of the applicable standards of the HMP. For example, the proposed project is not consistent with the HMP because it does not conserve at least 67% of habitat on-site. Inconsistencies with the HMP are considered significant and require project specific mitigation measures. These mitigation measures are provided below in Section 5.6.5 Mitigation Measures.

5.6.5 Mitigation Measures

Mitigation Required for Phase I Construction

Phase I Construction activities consist of grading to support the new RV storage/garden plot parcel. Specific Phase I construction activities include:

- Placement of fills for the RV area per grades approved by the MS-09-04
- Borrow of on-site soil (Parcel 1) adjacent to, but outside the limits of the proposed RV parcel (Parcel 2) per grading limits shown on MS-09-04
- Grading of proposed water quality bio-retention
- Mitigation for hydromodification impacts

- B-1** Prior to issuance of a grading permit for improvements proposed for Phase I of construction (i.e., grading to support the new RV storage/garden plot parcel), per the Carlsbad HMP, the Applicant shall pay mitigation fees as a result of significant direct impacts to 7.0 acres of extensive agriculture

(HMP Habitat Group F) and 0.6 acre of disturbed habitat (HMP Habitat Group F). Table 5.6-7 identifies the HMP mitigation fee requirement and required mitigation for each vegetation community.

B-2 Prior to issuance of a grading permit, construction (grading and building) and design measures listed below shall be implemented into the construction documents to avoid and minimize the likelihood of unanticipated impacts occurring.

- Prior to construction activities, BMPs shall be implemented according to the City's HMP and/or according to Appendix B of the Final MHCP Subarea Plan, Volume II.
- Prior to construction activities, all wetland areas within 50 feet of construction shall be protected by orange environmental fencing to protect them from damage. Fencing shall not interfere with wildlife movement or flows along the riparian corridors.
- Silt fencing or other sediment trapping devices shall be installed and maintained in order to prevent run-off from entering the water systems during construction activities.
- The project biologist shall inspect all construction fencing prior to construction and shall monitor initial clearing and grubbing activities to avoid unanticipated impacts. This monitoring does not replace specific mitigation measures identified above.
- Adequate requirements for dust, drainage, and erosion control shall be incorporated into project plans and grading conditions. The erosion control material shall include a hydroseed-mix of non-invasive herbaceous species, consisting of similar species currently on site. Specifically, the hydroseed-mix shall avoid those species listed by the California Invasive Plant Inventory (Cal-IPC). In addition, construction storm water management plans shall be prepared and followed through the implementation of a Storm Water Pollution Prevention Plan (SWPPP).
- Spoil, trash, and debris shall be removed to an off-site approved disposal facility.
- Prior to construction, the project biologist shall provide training to construction personnel regarding the need to avoid impacts to sensitive species and habitat areas, and allowable construction and work practices at the construction site relative to sensitive wildlife.
- All environmental permits and authorizations for work shall be kept on site and fully reviewed and complied with by the project superintendent and City representative.

B-3 After completion of site grading and associated Phase I improvements for the RV storage/garden parcel, areas temporarily impacted shall be revegetated with appropriate native species for erosion control purposes.

Mitigation Required for Phase II Construction

Phase II Construction activities consist of the construction of the CCRC site/community and the affordable housing component.

Applies to CCRC Site

B-4 Prior to the issuance of a grading permit, mitigation for the permanent and temporary impacts to disturbed valley needlegrass grassland and Diegan coastal sage scrub shall be accomplished through preservation on-site. Table 5.6-7 identifies the HMP mitigation ratio/requirement and required mitigation for each vegetation community. A mitigation ratio of 3:1 shall be applied to permanent impacts to <0.1 (0.01) acre of disturbed valley needlegrass grassland and a mitigation ratio of 1:1 shall be applied to permanent impacts to 0.6 acre of Diegan coastal sage scrub as the result of the CCRC site. 0.12 acre of disturbed valley needlegrass grassland and 0.60 acre of Diegan coastal sage scrub shall be placed within the proposed Upland Biological Open Space located within the CCRC site (Parcel 3 of MS 09-04). This open space is located just north of Agua Hedionda Creek. Restoration would occur via removal of non-native species and replacement with native grasses and sage scrub associates.

A conceptual mitigation, maintenance, and monitoring plan will be required for the restoration and preservation of Upland Biological Open Space. This plan would include the following elements: 1) objectives; 2) site selection criteria; 3) site protection instruments (e.g., conservation easements); 4) baseline information (for impact and compensation sites); 5) credit determination methodology; 6) mitigation work plan; 7) maintenance plan; 8) ecological performance standards; 9) monitoring requirements; 10) long-term management plan; 11) adaptive management plan; and 12) financial assurances.

Applies to CCRC Site and Affordable Housing Site

B-5 Prior to issuance of a grading permit, construction (grading and building) and design measures listed below shall be implemented into the construction documents to avoid and minimize the likelihood of unanticipated impacts occurring.

- Prior to construction activities, BMPs shall be implemented according to the City's HMP and/or according to Appendix B of the Final MHCP Subarea Plan, Volume II.
- Prior to construction activities, all wetland areas within 50 feet of construction shall be protected by orange environmental fencing to protect them from damage. Fencing shall not interfere with wildlife movement or flows along the riparian corridors.
- Silt fencing or other sediment trapping devices shall be installed and maintained in order to prevent run-off from entering the water systems during construction activities.
- The project biologist shall inspect all construction fencing prior to construction and shall monitor initial clearing and grubbing activities to avoid unanticipated impacts. This monitoring does not replace specific mitigation measures identified above.
- Adequate requirements for dust, drainage, and erosion control shall be incorporated into project plans and grading conditions. The erosion control material shall include a hydroseed-mix of non-invasive herbaceous species, consisting of similar species currently on site. Specifically, the hydroseed-mix shall avoid those species listed by the California Invasive Plant Inventory (Cal-IPC). In addition, construction storm water management plans shall be

prepared and followed through the implementation of a Storm Water Pollution Prevention Plan (SWPPP).

- Spoil, trash, and debris shall be removed to an off-site approved disposal facility.
- Prior to construction, the project biologist shall provide training to construction personnel regarding the need to avoid impacts to sensitive species and habitat areas, and allowable construction and work practices at the construction site relative to sensitive wildlife.
- All environmental permits and authorizations for work shall be kept on site and fully reviewed and complied with by the project superintendent and City representative.

Applies to CCRC Site

- B-6** After completion of site grading and associated Phase II improvements, native areas temporarily impacted shall be revegetated with appropriate native species for erosion control purposes.

Applies to CCRC Site and Affordable Housing Site

- B-7** Prior to issuance of a grading permit for improvements proposed for Phase II of construction, per the Carlsbad HMP, the Applicant shall pay mitigation fees as a result of significant direct impacts to 27.3 acres of extensive agriculture (HMP Habitat Group F), 0.5 acres of eucalyptus woodland, and 1.2 acres of disturbed habitat (HMP Habitat Group F). Table 5.6-7 identifies the HMP mitigation fee requirement and required mitigation for each vegetation community.

Applies to CCRC Site and Affordable Housing Site

- B-8** Prior to issuance of a grading permit, the construction of the storm drain located on APN 209-060-58 will require development of a streambed alteration agreement with the CDFG, pursuant to section 1602 of the California Fish and Game Code.

On-site restoration and preservation of wetlands shall occur within a Riparian Biological Open Space, located within Agua Hedionda Creek and supports high quality riparian habitat. Specifically, 0.01 acre of habitat would be enhanced through removal of non-native species and replacement with native riparian habitat on Agua Hedionda Creek. The open space has been designed in accordance with the Carlsbad HMP and includes preservation of habitat that could be credited towards mitigation.

In addition, a monitoring biologist shall be on-site during a) initial clearing and grubbing of habitat and b) project construction within 300 feet of preserved habitat to ensure compliance with all conservation measures. The biologist must be knowledgeable of upland and wetland biology and ecology. The biologist shall perform the following duties:

- Oversee installation of and inspect temporary fencing and erosion control measures within or up-slope of all restoration and/or preservation areas a minimum of once per week and daily during all rain events to ensure that any breaks in the fence or erosion control measures are repaired immediately.

- Monitor the work area weekly to ensure that work activities do not generate excessive amounts of dust.
- Train all contractors and construction personnel on the biological resources associated with this project and ensure that training is implemented by construction personnel. At a minimum, training will include: a) the purpose for resource protection; b) the conservation measures that should be implemented during project construction, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); d) environmentally responsible construction practices, and e) the protocol to resolve conflicts that may arise at any time during the construction process.
- Halt work, if necessary, and confer with the Wildlife Agencies to report any violation to the Wildlife Agencies within 24 hours of discovery of its occurrence.

Applies to CCRC Site and Affordable Housing Site

- B-9** Construction (grading and building) of the proposed project during the general avian and raptor breeding season (January 15 – September 15) shall be conducted only after initial surveys for active nests are completed by the project biologist. If an active nest is found, no "take" of nesting migratory birds may occur in accordance with regulatory requirements of the federal MBTA and California Fish and Game Codes §3503 and §3513.

Applies to Affordable Housing Site

- B-10** Prior to the issuance of a grading permit, construction (grading and building) adjacent to the least Bell's vireo occupied habitat is to occur outside of the vireo breeding season (March 15 – September 15). If avoidance of the nesting bird season is not feasible, vegetation removal and construction activities may occur during the restricted work period if the project biologist conducts a focused survey for active nests within forty-eight (48) hours prior to work in the area. If the survey identifies an active nest, a buffer shall be established between the construction activities and the active nest so that nesting activities are not interrupted. The buffer shall be delineated by temporary fencing, and shall be in effect throughout construction or until the nest is no longer active. The buffer shall be a minimum of 300 feet of a listed bird nest. The Applicant may consult with the CDFG to discuss a reduced buffer size if species sensitivity and localized conditions (e.g., width and type of screening vegetation between the nest and the proposed activity, terrain, existing level of human activity within the buffer and in the surrounding area, and existing ambient level) warrant a reduced buffer.

Applies to Affordable Housing Site

- B-11** Construction noise levels at the riparian canopy edge shall be kept below 60 dBA Leq from 5 a.m. to 11 a.m. during peak nesting periods (March 15 – July 15). For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a one-hour period. Noise levels shall be monitored and monitoring reports shall be provided to the jurisdictional city, USFWS, and CDFG. Noise levels in excess of this threshold shall require written concurrence from USFWS and CDFG and may require additional minimization/mitigation measures.

Applies to CCRC Site and Affordable Housing Site

B-12 To avoid significant indirect impacts due to increased lighting, non-native species introduction, and intrusion into adjacent habitats, the following measures shall be included into the project design prior to the issuance of a grading permit:

- Prior to construction (grading and building), permanent fencing (e.g., chain link or peeler core) shall be installed along the border of the Agua Hedionda Creek open space and upland open space, and informative signage shall be installed identifying the area as a preserve.
- The project shall incorporate low sodium, downcast/fully shielded temporary (during construction activities if required) and permanent lighting (associated with development adjacent to the open space) within its lighting plan.
- Adequate requirements for dust, drainage, and erosion control shall be incorporated into project plans and grading permit conditions. The erosion control material shall include a hydroseed-mix of non-invasive herbaceous species, consisting of similar species currently on site, avoiding those species listed by the California Invasive Plant Inventory (Cal-IPC) as the "exotic pest plants of greatest concern" (Cal-IPC 1999).
- In addition, construction storm water management plans shall be prepared and followed through the implementation of a Storm Water Pollution Prevention Plan (SWPPP).

Applies to the Affordable Housing Site

B-13 A modified buffer of 97 feet shall be incorporated from the edge of the riparian canopy associated with Agua Hedionda Creek.

To ensure that the modified buffer for the affordable housing site is managed for natural biological values and that appropriate plants are located within the 60-foot fuel modification zone, the following planting palette (from south to north within the 100-foot buffer) and restrictions on maintenance of the detention basin shall be implemented:

1. The first 20 feet of the fuel modification area includes the stormwater cleansing bio-swale.

Recommended plants include yerba mansa, saltgrass, beardless wild ryegrass, and southwestern spiny rush. The yerba mansa and saltgrass are prostrate native ground cover plants while the beardless wild ryegrass and southwestern spiny rush would provide limited low height vertical cover while still meeting the City's fuel modification zone restrictions.

2. The next 20 feet of the fuel modification area includes the slope down into the detention basin.

Recommended plants include saltgrass, beardless wild ryegrass, and deergrass.

3. The next 20 feet of the fuel modification area includes the detention basin (ground cover will be needed for erosion/runoff purposes).

Recommended plants include yerba mansa, California evening primrose, mariposa rush, Mexican rush, and *Carex* species. Removal of vegetation within the basin is expected to be infrequent and limited to the Fall. Maintenance activities (i.e., removal of vegetation) must occur outside the vireo breeding season (March 15- September 15).

The remaining lands include the slope connecting to the existing riparian habitat, which would not have to be maintained and thus shall be replanted with riparian trees along with native understory. Recommended plants include arroyo willow, western sycamore, mule fat, Mexican elderberry, coast live oak, California blackberry, southwestern spiny rush, and western poison oak.

4. The entire modified buffer for the affordable housing site shall be hydroseeded with low-growing native herbaceous species for erosion control purposes. The hydroseed shall consist of low-growing native herbaceous species as listed above.

Applies to CCRC Site

- B-14** Prior to the recordation of MS-09-04, all structures, including a vacant single family home and all accessory structures on the southern parcel of the CCRC site (APN # 209-06-071) shall be removed properly off-site.

5.6.6 Impact After Mitigation

Implementation of Mitigation Measures B-1 through B-14 will reduce the impact to Biological Resources to a level of less than significant.

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